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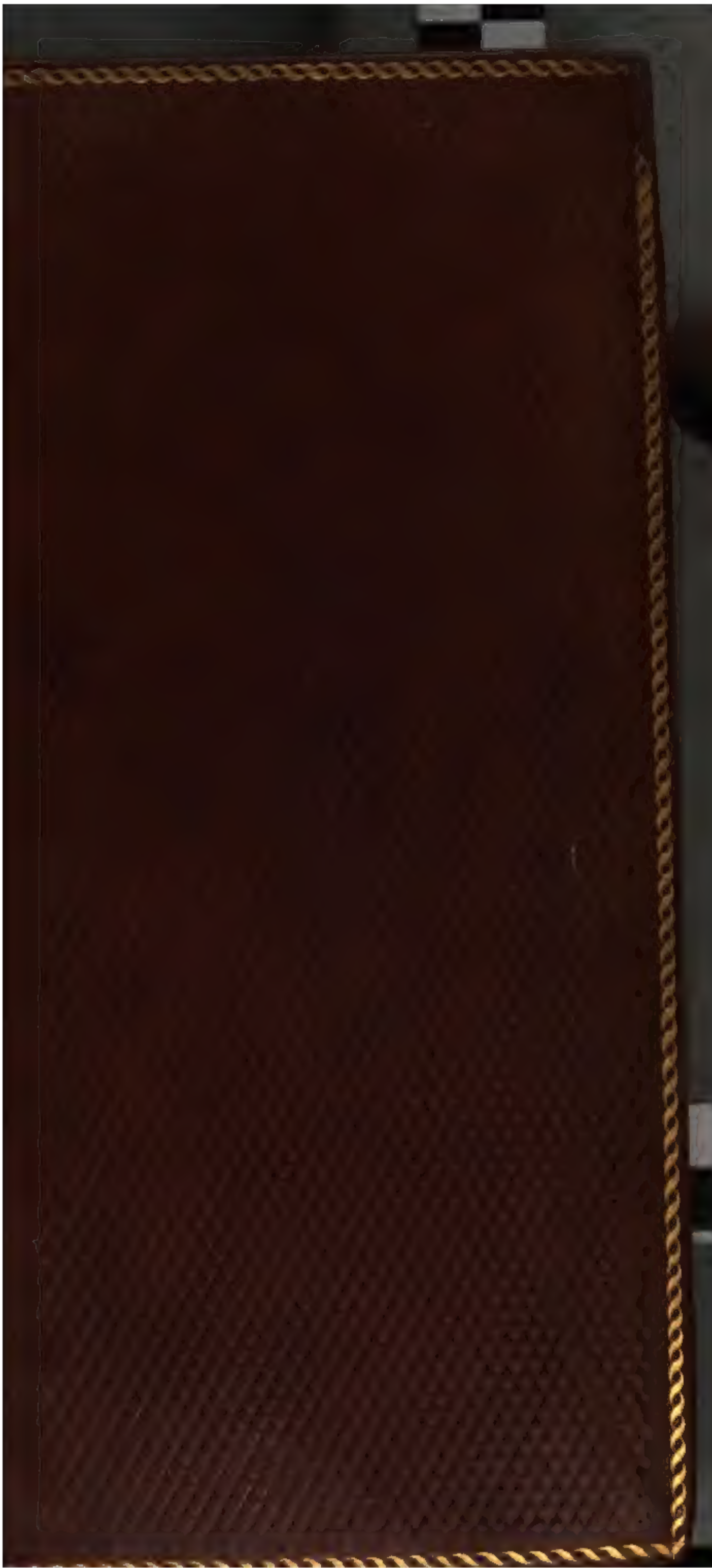
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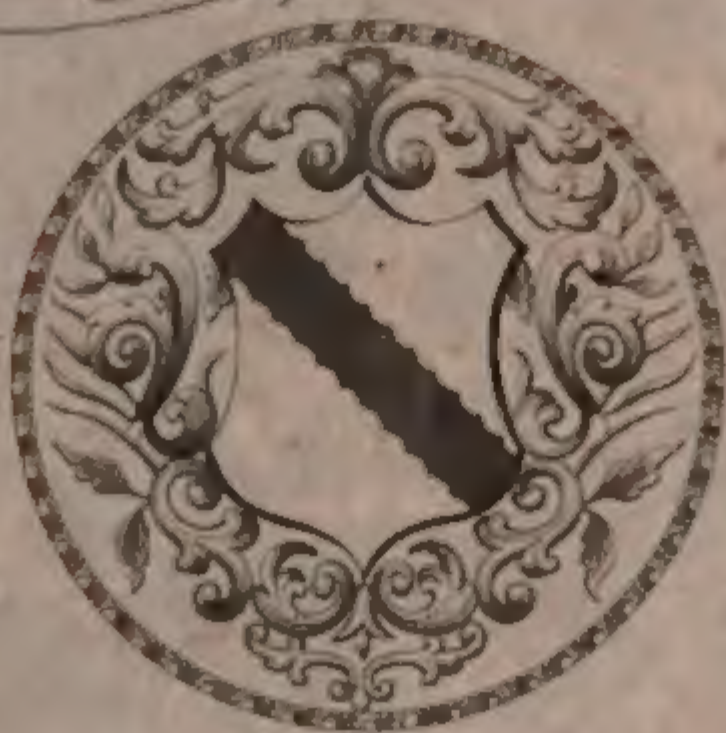
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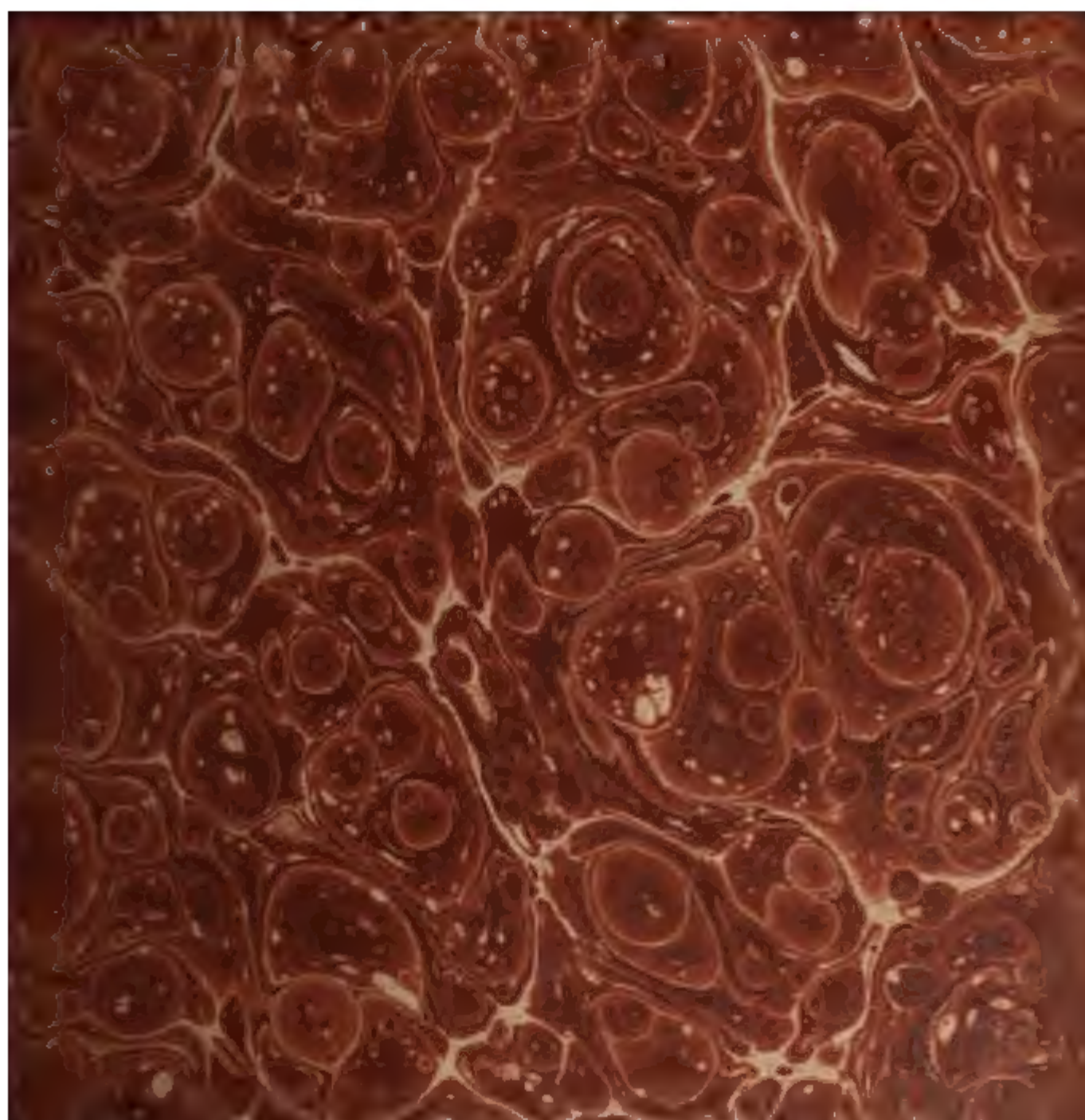


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ENGLISH BOTANY;

OR,

COLOURED FIGURES

OF

BRITISH PLANTS,

WITH THEIR

ESSENTIAL CHARACTERS, SYNONYMS,
AND PLACES OF GROWTH.

TO WHICH WILL BE ADDED,
OCCASIONAL REMARKS.

BY

JAMES EDWARD SMITH, M.D. F.R.S.

MEMBER OF THE IMP. ACAD. NATURÆ CURIOSORUM, THE
ACADEMIES OF STOCKHOLM, UPSAL, TURIN,
LISBON, LUND, BERLIN, PHILADELPHIA, AND
THE NAT. HIST. SOCIETY OF PARIS;
PRESIDENT OF THE LINNEAN SOCIETY.

THE FIGURES BY
JAMES SOWERBY, F.L.S.

— "VIRESCERE ACQUIRIT RENDO." — *Virg.*

VOL. XX.

LONDON:

PRINTED BY E. TAYLOR AND CO., BLACK-HORSE-COURT, FLEET-STREET;
And sold by the Proprietor, J. SOWERBY, at No. 2, Mead Place,
Lambeth; by Messrs. WHITE, Fleet-street; JOHNSON, St. Paul's
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MDCCCXV.

ENGLISH BOTANY

OF

THE GREAT BRITAIN

AND

THE ISLES OF MAN

BY

JOHN

SMITH

ESQ.

F.R.S.

LONDON

1787

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at the

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LICHEN scrobiculatus.

Pitted Lichen.

CRYPTOGAMIA *Algæ.*

GEN. CHAR. Male, scattered warts.

Female, smooth shields or tubercles, in which the seeds are imbedded.

SPEC. CHAR. Leafy, creeping, roundly lobed, crenate, pitted; glaucous above, with mealy warts; brown and downy beneath, with white bald spots. Shields small, scattered, tawny.

SYN. Lichen scrobiculatus. *Scop. Carn. n. 1391.*

Lightf. 850. Willd. V. 4. 59.

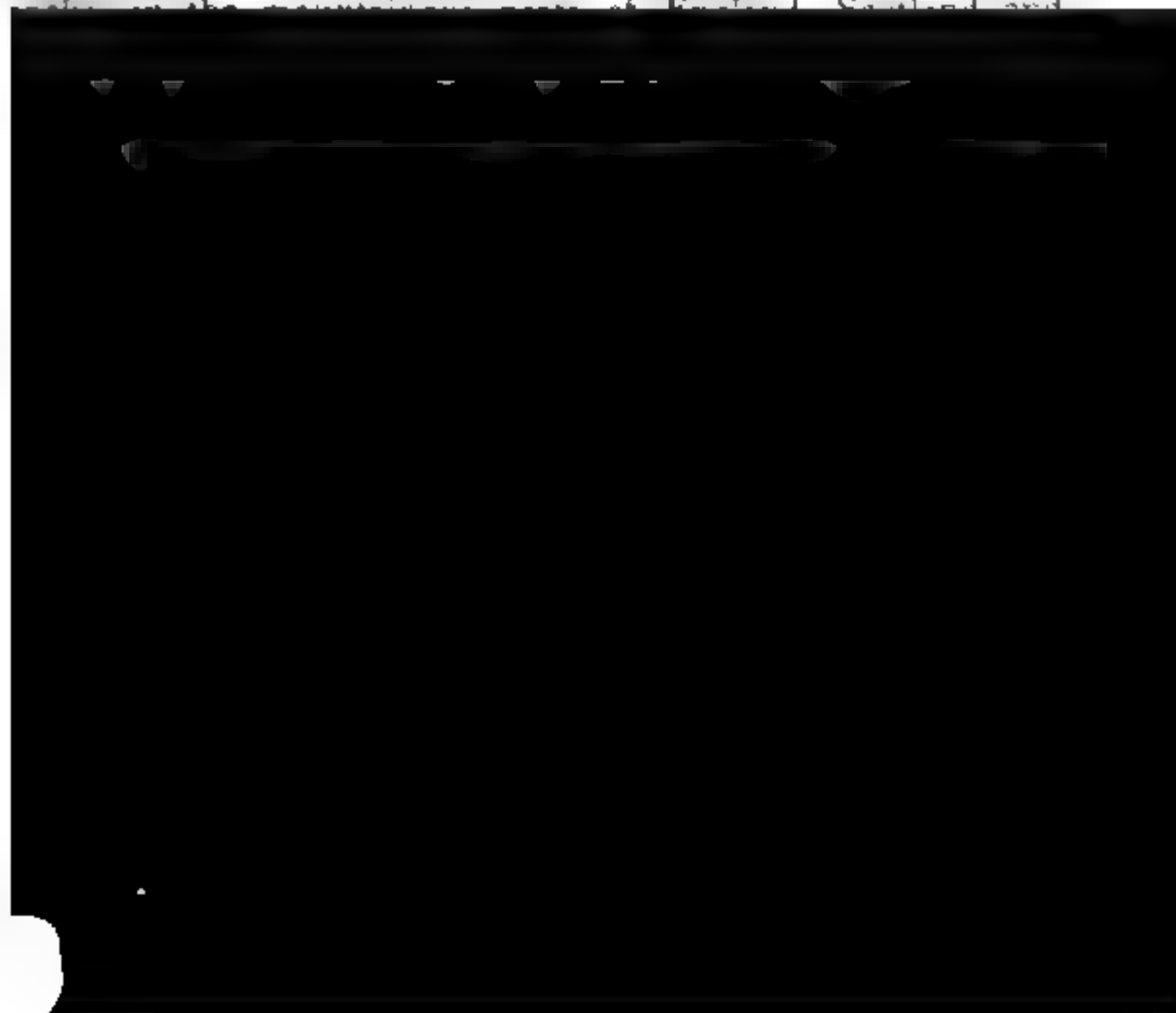
L. verrucosus. *Huds. 545. Sibth. 331. Jacq. Coll. V. 4. 278. t. 18. f. 2.*

Lichenoides pulmoneum villosum, superficiei scrobiculata et peltata. *Dill. Musc. 216. t. 29. f. 114.*

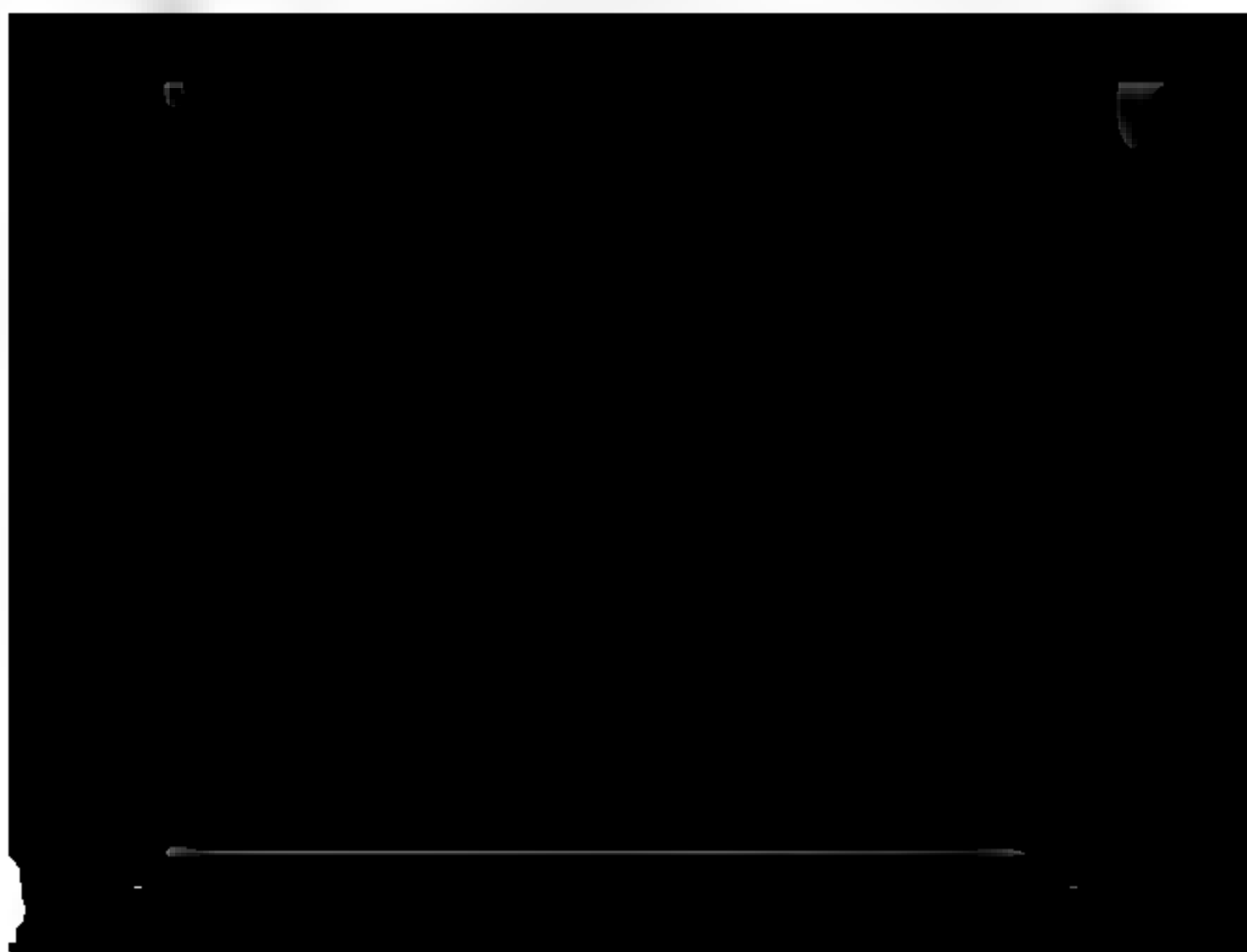
L. arboreum foliosum cinereum et sinuatum, inferne scabrum. *Raii Syn. 75.*

Pulmonaria verrucosa. *Hoffm. Pl. Licb. t. 1. f. 1.*

FOUND on the trunks of trees, sometimes on mossy dry rocks, in the mountainous parts of England, Scotland, and







LICHEN pulmonarius.

Lungwort Lichen.

CRYPTOGAMIA Age

GEN. CHAR. Male, scattered warts.

Female, smooth shields or tubercles, in which the seeds are imbedded.

SPEC. CHAR. Leafy, lacinated, obtuse, smooth; above green and pitted, somewhat reticulated; downy beneath. Shields mostly marginal.

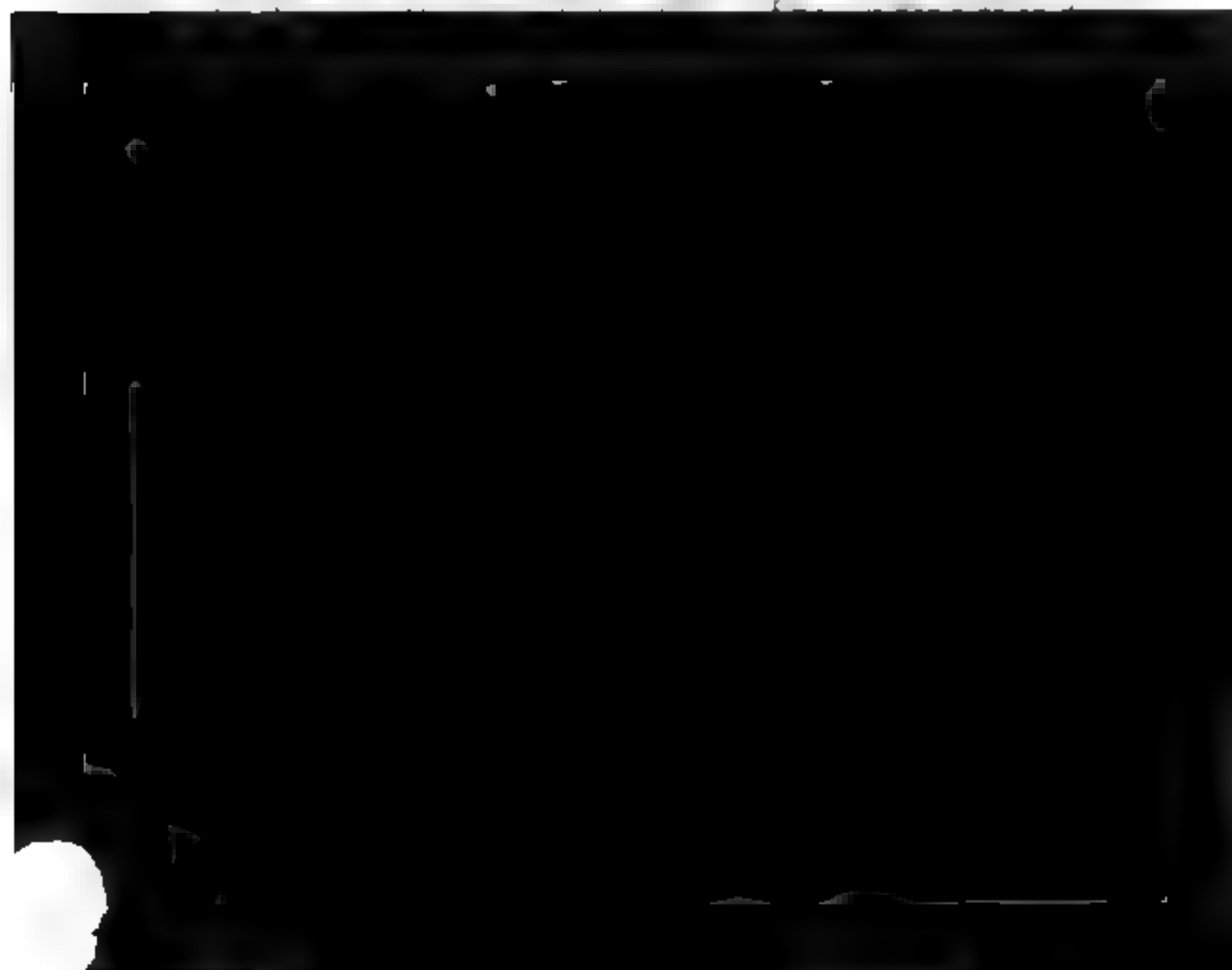
SYN. Lichen pulmonarius. *Lam. Sp. Pl.* 1612. *Huds.* 542. *Wilh. v.* 4. 54. *Reit.* 432. *Sibth.* 331. *Abbot.* 267.

Lichenoides peltatum arboreum maximum. *Raii Syn.* 76.

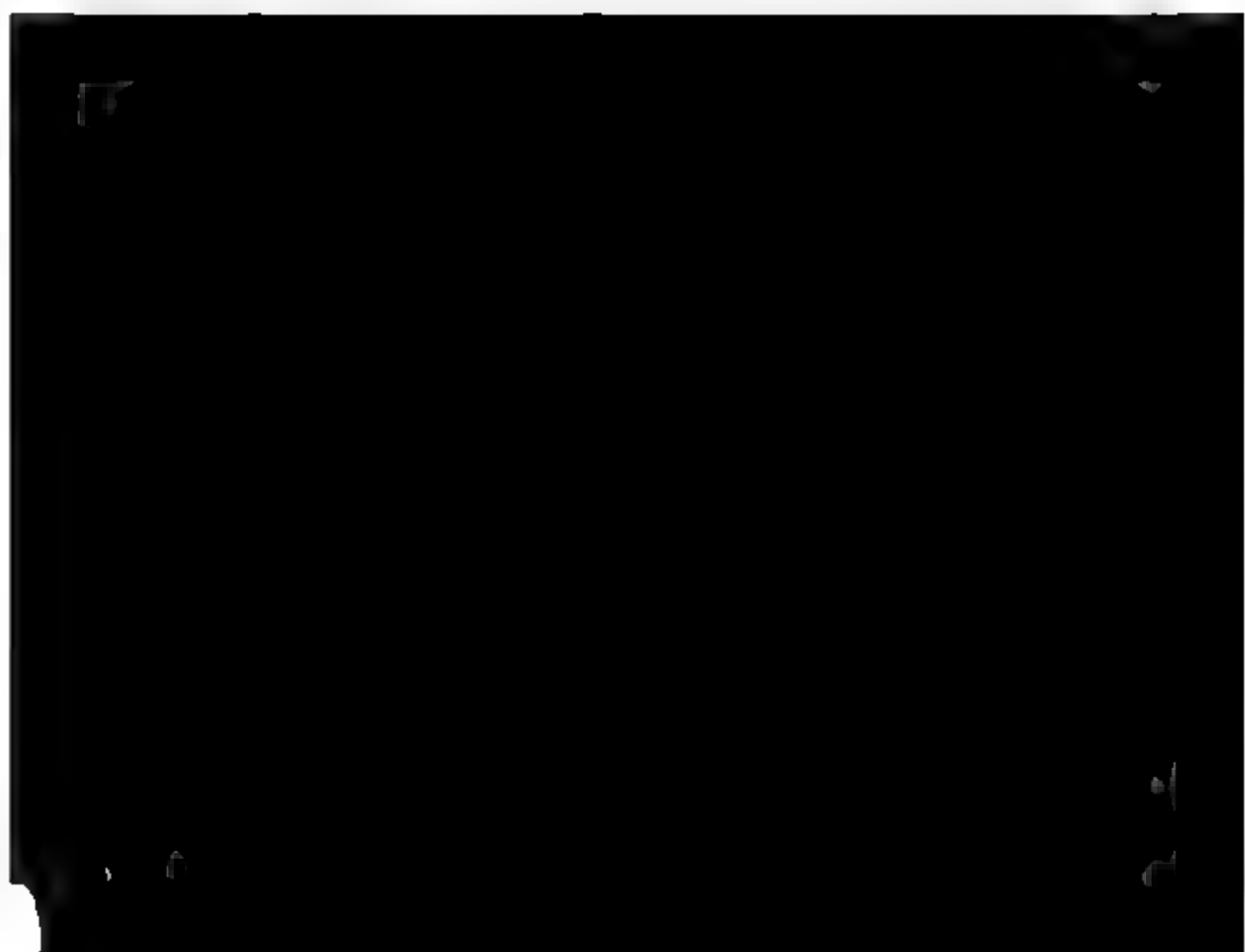
L. pulmoneum reticulatum vulgare, marginibus peltiferis. *Dill. Musc.* 212. t. 29. f. 113.

Pulmonaria reticulata. *Hoffm. Pl. Lich.* t. 1. f. 2.

MOST plentiful in the northern or mountainous countries, where it clothes the trunks of large trees with a rich leafy garment. The fronds grow a little imbricated, but considerably raised from the bark into which their roots are inserted. They are leathery, green, deeply divided, irregularly and bluntly lobed, strongly pitted, the interstices forming a kind of network, which towards the margin of the frond is powdery or









LICHEN perlatus.

*Pearly Lichen.**CRYPTOGAMIA Algæ.***GEN. CHAR.** Male, scattered warts.

Female, smooth shields or tubercles, in which the seeds are imbedded.

SPEC. CHAR. Leafy, creeping, lobed; grey and smooth above; black and hairy below; bordered with powdery tubercles. Shields on short foot-stalks, olive-coloured, concave, with a crenate powdery inflexed margin.**SYN.** Lichen perlatus. *Lin. Syst. Nat. ed. 12. v. 2. 712. Huds. Fl. An. 543. With. Bot. Arr. v. 3. 205. Reth. Cant. 434. Sibth. Ox. 330. Smith's Tour, v. 1. 225. 260.**Lichenoides glaucum perlatum, subtus nigrum et cirrosum. Dill. Musc. 147. t. 20. f. 39.***FOUND** on the trunks of trees, old park pales, &c. very frequently, but it is one of the most rare of all Lichens in fructification. Our specimen in that state was gathered in Cardigan-shire last summer, and is the only British one we ever saw.

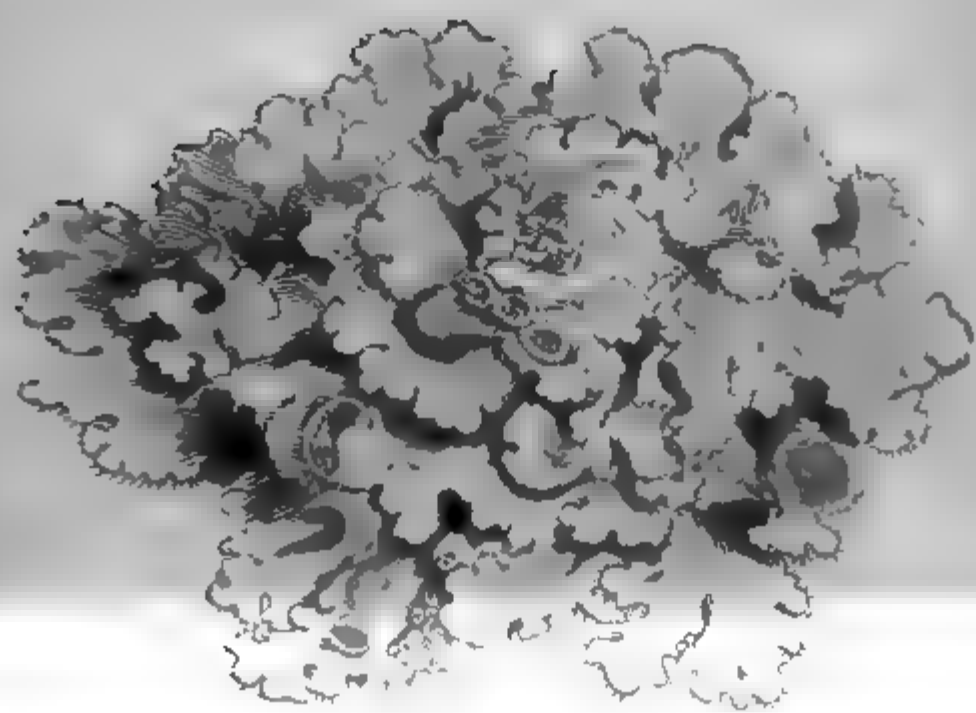
The fronds spread into patches about as broad as the hand, not very firmly attached in any part, and the margin quite loose



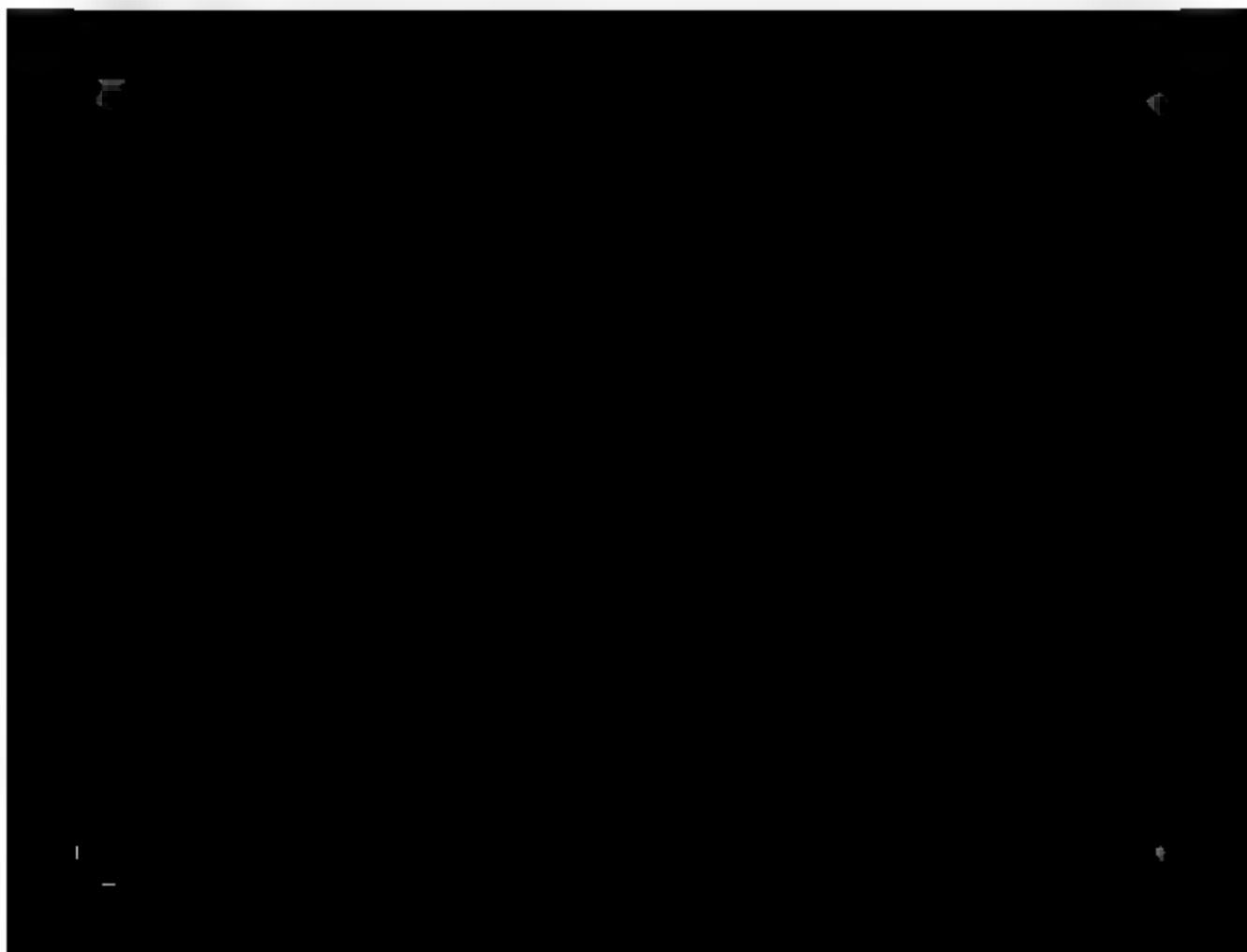


10





v



LICHEN perforatus.

Perforate-shielded Lichen.

CRYPTOGAMIA *Algæ.*

GEN. CHAR. Male, scattered warts.

Female, smooth shields or tubercles, in which the seeds are imbedded.

SPEC. CHAR. Leafy, somewhat membranous, creeping, veinless, lobed; glaucous above; black and rough beneath; crenate and fringed with black hairs. Shields red-brown, at length perforated, with an entire, smooth, narrow margin.

SYN. Lichen perforatus. *Ach. Prodr.* 155. *Wulf. in Jacq. Coll.* v. 1. 116. t. 3.

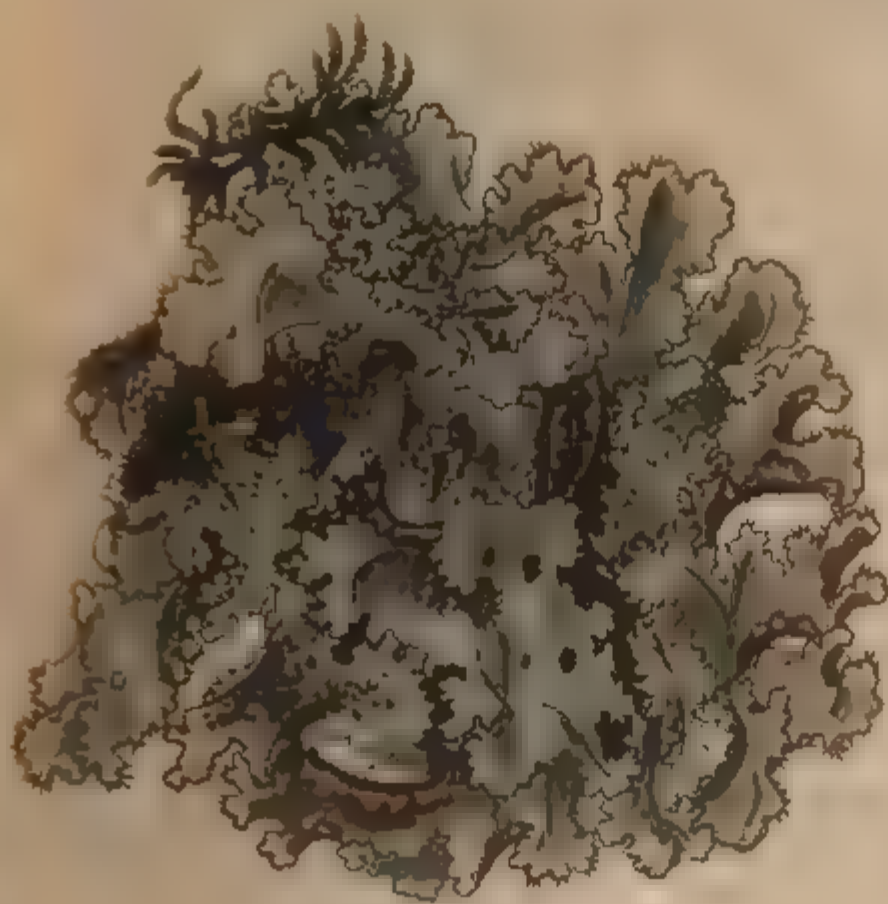
Lichenoides glaucum, foliorum laciniis crinitis. *Dill. Musc.* 149. t. 20. f. 42. also f. 43 and 44, and t. 82. f. 3.

Platisma perforatum. *Hoffm. Pl. Lich.* v. 1. 65. t. 13. f. 1. and t. 13 B; figures all copied from the above.

Parmelia perforata. *Ach. Meth.* 217.

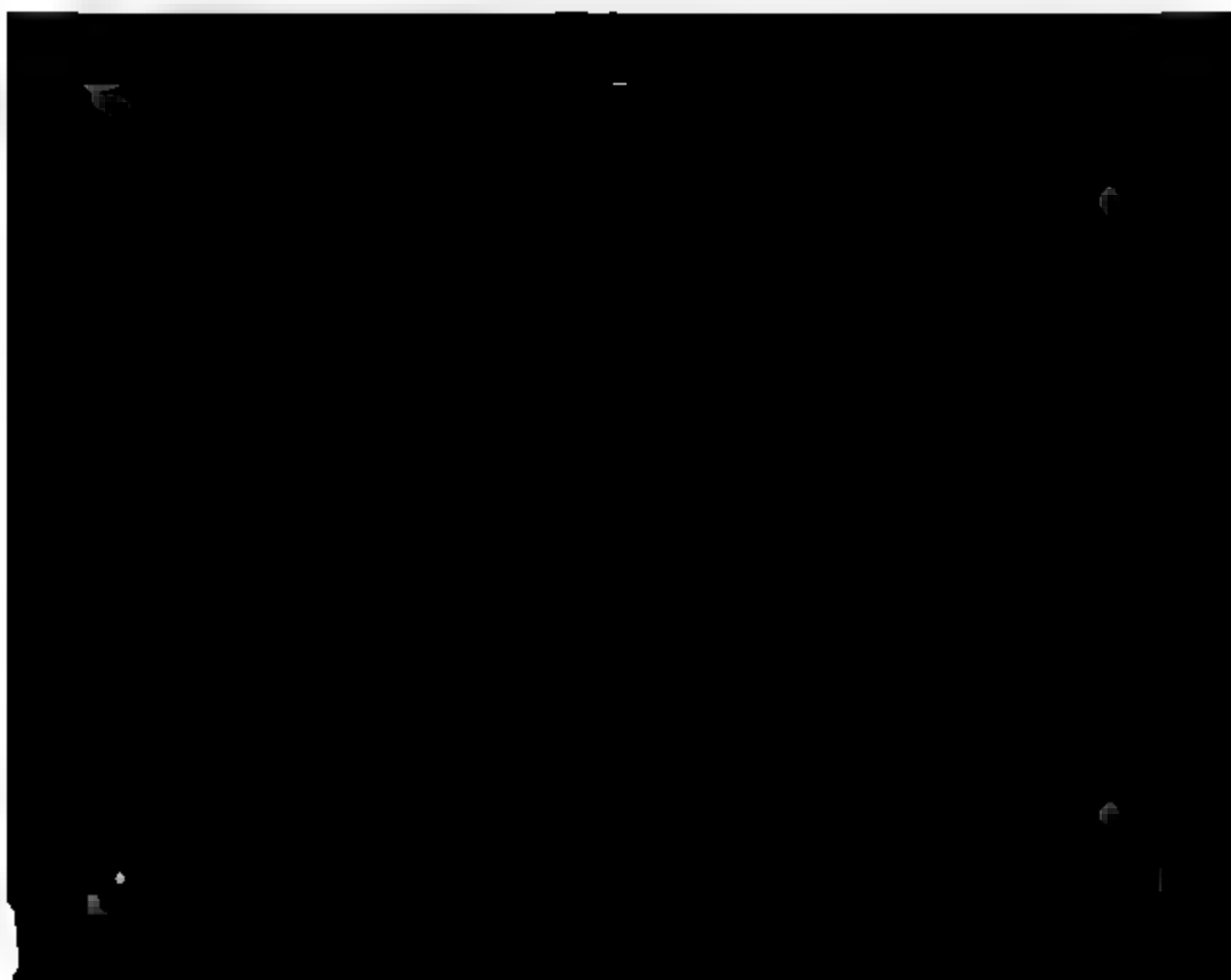
WE have many times gathered this Lichen in Wales, on the trunks of old trees and on rocks, but could never find shields. We have it of a very large size, like *Dill. f.* 43, but still barren, from South America. Mr. W. Borrer sent the annexed specimen from Sussex, where the plant is not uncommon on trees and sand-rocks, but no fructification has been discovered. The shields in our plate are from America.

Although nearly related to *L. perlatus*, t. 341, there is an evident difference in the aspect of the present species, whose edges are much more finely crenate or cut. The large pearly marginal warts also are wanting, though the surface is here and there granulated. The shields have a very thin smooth and entire border, not an inflexed powdery or crenate one, and they are very remarkable for acquiring a large irregular hole in the centre, as soon as they advance towards maturity.



Two small specimens of the same species

2





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LICHEN glomuliferus.

Ball-bearing Lichen.

CRYPTOGAMIA *Algæ.*

GEN. CHAR. Male, scattered warts.

Female, smooth shields or tubercles, in which the seeds are imbedded.

SPEC. CHAR. Foliaceous, creeping, even and glaucous above, bearing dark-green, branched, tufted excrescences. Shields tawny.

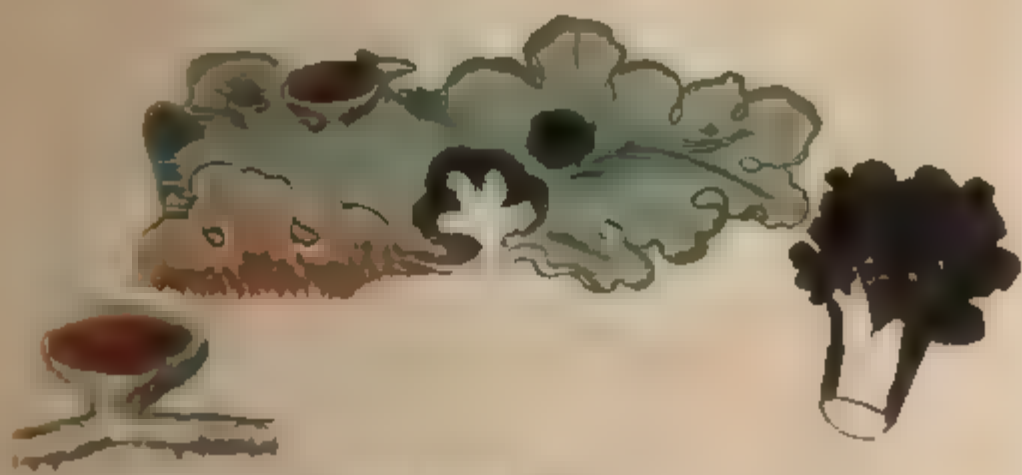
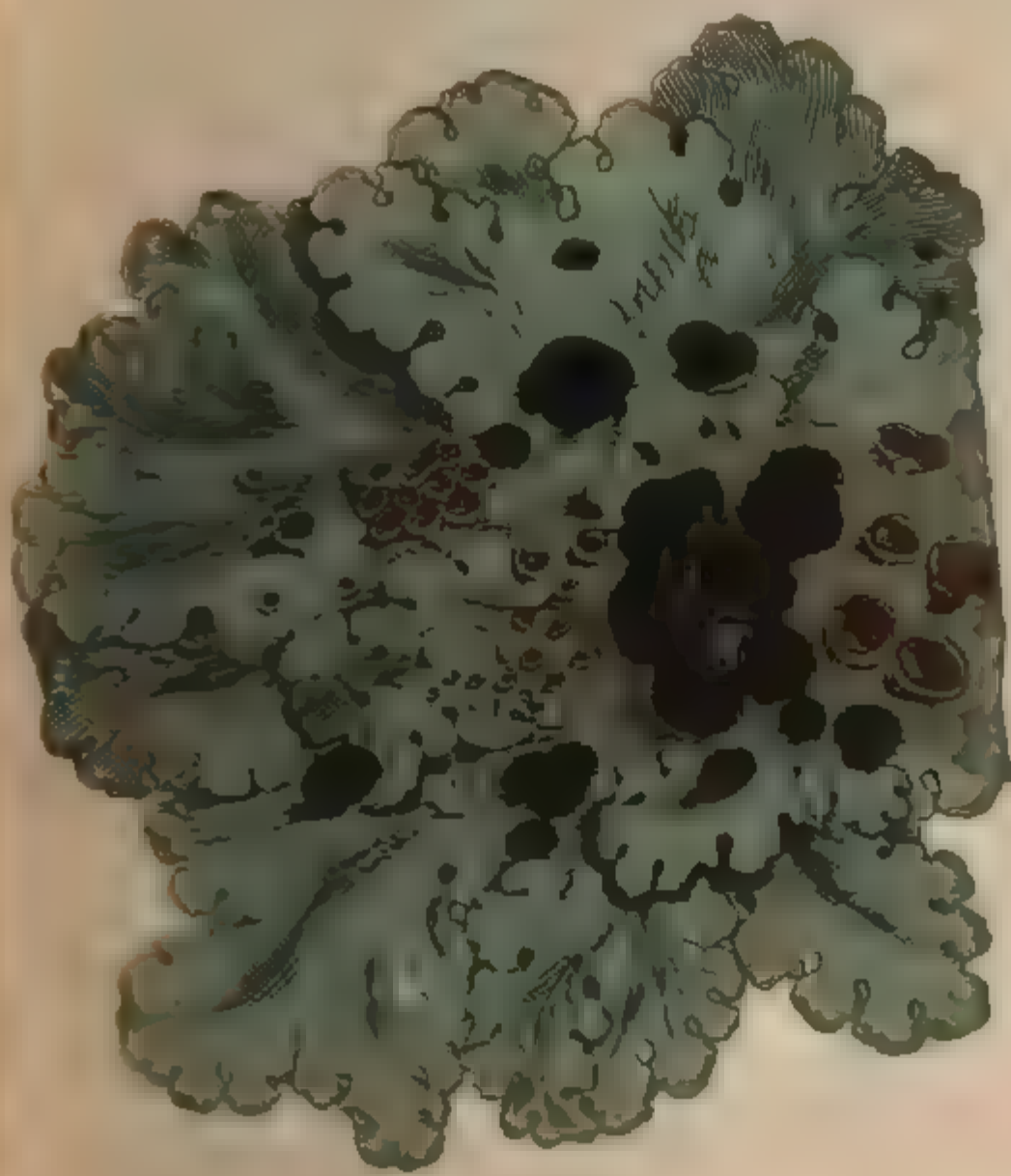
SYN. Lichen glomuliferus. *Lightf. Scot.* 853.

L. laciniatus. *Huds. Fl. An.* 544. *With. Bot. Arr.* v. 3. 198.

Lichenoides subglaucum cumatile, foliis tenacibus, eleganter laciniatis. *Dill. Musc.* 197. t. 26. f. 99.

THIS is by far the largest and broadest *Lichen* known, often measuring two or three feet in diameter, and therefore Scopoli's original name *amplissimus* ought not to have been changed; but Mr. Lightfoot's is so apt, and has been so generally adopted by practical botanists, we retain it in preference to that given by Mr. Hudson, *laciniatus*, which is not expressive nor discriminative at all.

Lichen glomuliferus is found on the trunks of trees in old mountainous woods in England, Scotland, and Wales, very abundantly in Colonel Johnes's woods at Hafod, where ours was gathered. Its fronds spread loosely over the bark, a little imbricated, of a pale glaucous green above when moist, whitish grey when dry, very smooth, scarcely ever rugged; beneath downy, light reddish brown, the margin white. They are elegantly lobed and scalloped, the lobes being all round, and the little sinuses between them often quite circular. The shields are numerous, and by no means very rarely produced, not large, a little elevated, their margin smooth, of the colour and substance of the frond, out of which indeed it is formed by the gradual elevation and increase of the shield from a small immersed point; the disk is concave, of a brownish orange-colour, darker when dry. Besides these shields remarkable tufts or balls, of a dark-green soft branchy substance, with a solid white stem, arise out of the frond. These are more frequent than the shields, found on the same individual plants, and distinguish the species, being supposed to have a share in the fructification. We will not add any new conjectures to those to be found in Withering and Lightfoot, in both which authors this curious plant is well described.







LICHEN læte-virens.

Bright-green Lichen.

CRYPTOGAMIA *Algæ.*

GEN. CHAR. Male, scattered warts.

Female, smooth shields or tubercles, in which the seeds are imbedded.

SPEC. CHAR. Foliaceous, creeping, obtusely lobed and crenated; bright green above; whitish, downy and without veins beneath. Shields tawny.

SYN. Lichen læte-virens. *Lightf. Scot.* 852. *Dicks. Dr. Pl.* 23.

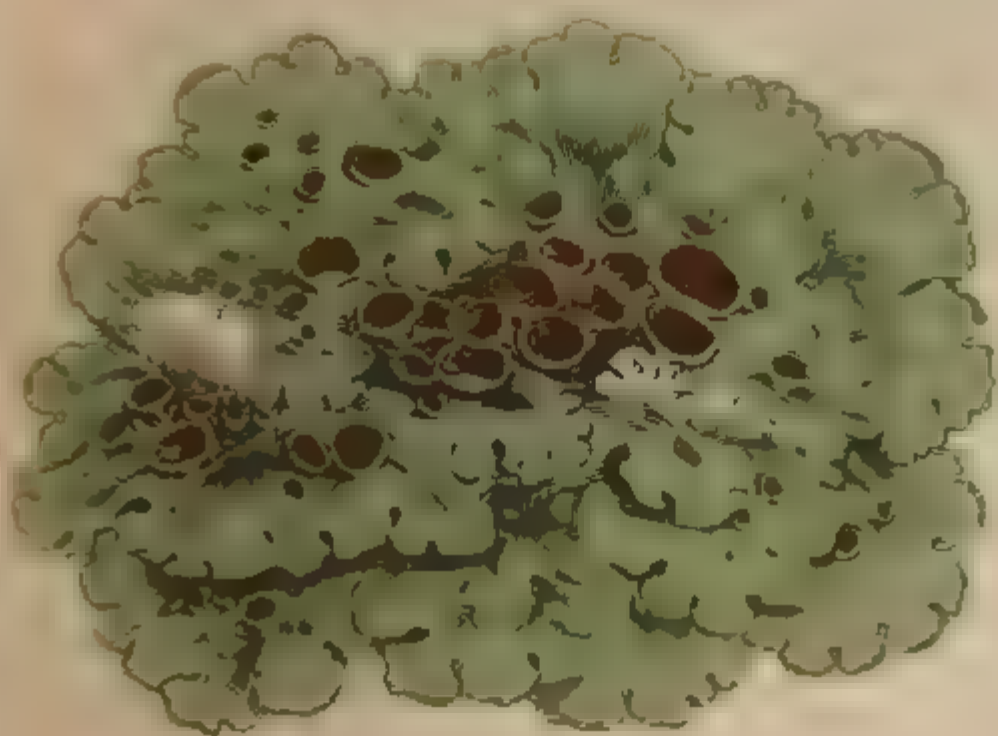
L. herbaceus. *Huds. Fl. An.* 544. *With. Bot. Arr.* v. 3. 195.

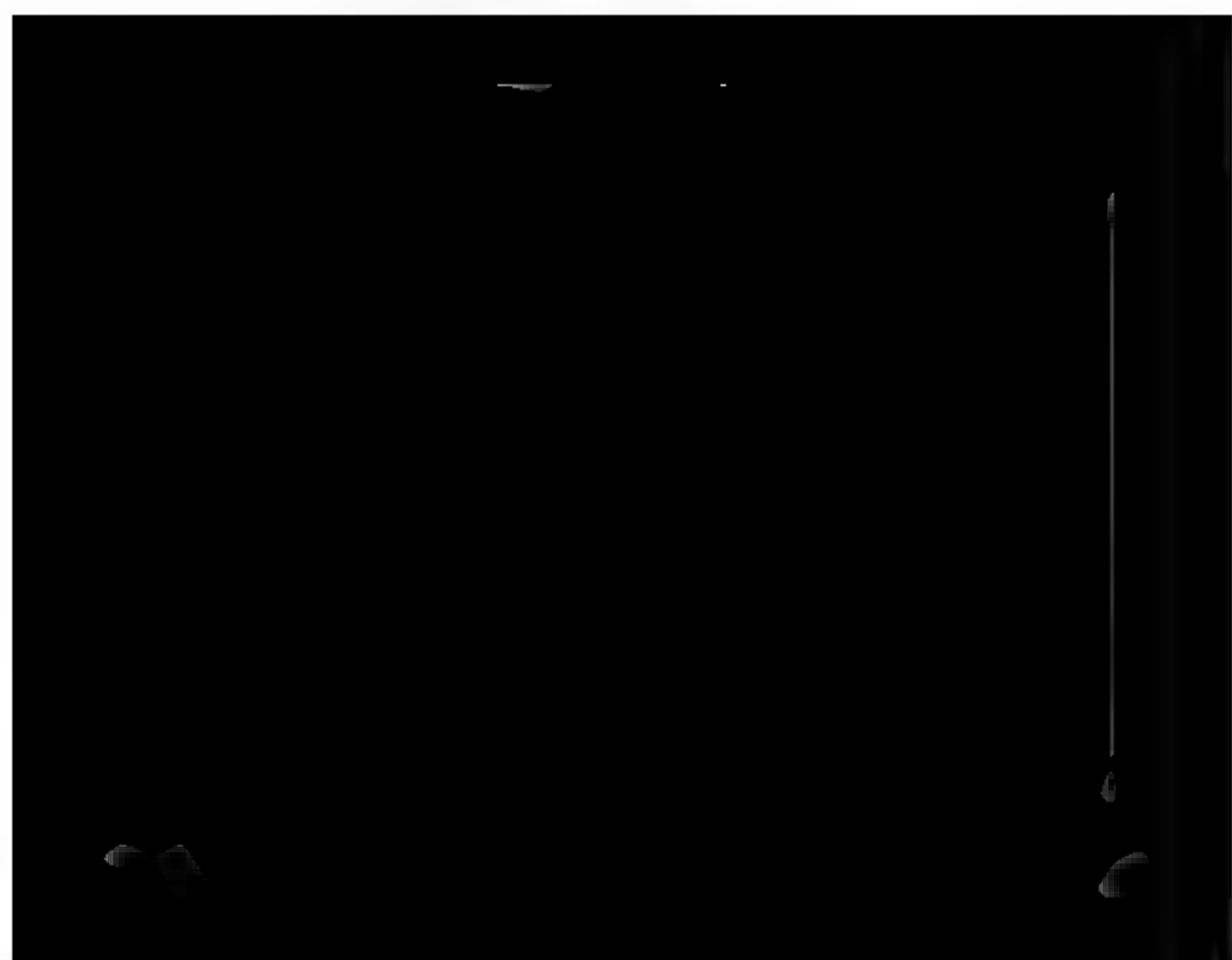
Lichenoides arboreum cinereo virens, tenue et læve ubiquæ, scutellis minoribus. *Raii Syn.* 73.

L. læte virens, scutellis fulvis. *Dill. Musc.* 195. t. 25. f. 98.

THIS *Lichen* is next akin to that in our last plate, but a perfectly distinct species. We prefer Mr. Lightfoot's name also in this instance, because it has been most generally received, and is expressive of the peculiarly beautiful green which this plant assumes when moistened. Besides, *herbaceus* in botanical language is too generally used to express duration, to be intelligible when applied to colour.

The species before us is found in similar places with the preceding, but more frequently, especially in Derbyshire and Westmoreland. It differs from that in being thinner, less extensive, without the tufted excrescences, and of a very different colour. When dry it becomes brown. The shields are copiously produced, a little elevated, their margin smooth, turned in, their disk deep orange, turning brown in drying.







LICHEN sylvaticus.

Wood Pitted Lichen.

CRYPTOGAMIA Algæ.

GEN. CHAR. Male, scattered warts.

Female, smooth shields or tubercles, in which the seeds are imbedded.

SPEC. CHAR. Membranous, ascending, deeply lobed, bluntly cut, divaricated, of a greenish rusty hue, and somewhat pitted, above; beneath downy, tawny, blackish, with white pits. Shields marginal, vertical, convex, dark brown.

SYN. Lichen sylvaticus. *Huds.* 547. *Linn. Syst. Veg.* ed. 14. 961. *Achar. Prod.* 156. *With.* v. 4. 71.

Hudl. 300. *Lightf.* 848. *Sm. Tour to Hafod*, 12.

Lichenoides polyschites, villosum et scabrum, peltis parvis. *Dill. Musc.* 199. t. 27. f. 101.

Sticta sylvatica. *Achar. Meth.* 281. *Winch.* v. 2. 61.

Peltigera sylvatica. *Hoffm. Pl. Lich.* v. 1. 21. t. 4. f. 2.

WE have long waited, and have hunted for many an hour in vain, for British specimens of the shields of this Lichen, of which we once saw a fine specimen, sent by Dr. Burgess to Dr. Hope; so that we can vouch for the accuracy of what we are at length obliged to borrow from Hoffmann's beautiful work, at fig. 1. The plant itself, brought by Lady Wilson from the falls of Moness, is plentiful enough under trees in reclus mountainous woods of Oak, Birch, &c. The fronds compose light elastic tufts, as they spread nearly horizontally, slightly touching the ground or each other with the divaricated narrow lobes. Their upper surface is of a rich, often greenish, brown, full of little hollows; the under besprinkled with whitish pits, among short soft down; for this species belongs to the family of *Sticta*, see t. 1103, 1101. When moist, the whole has a furtive alkaline scent. The shields stand pressed vertically to marginal segments, and are small, convex, brown, without borders.



Enteromorpha flexilis



[1103]

LICHEN fuliginosus.
Sooty leafy Lichen.

CRYPTOGAMIA *Alga.*

GEN. CHAR. Male, scattered warts.

Female, smooth shields or tubercles, in which the seeds are imbedded.

SPEC. CHAR. Membranous, spreading, roundly lobed, dark greenish grey, rough with blackish granulations: beneath downy, with white pits. Shields red brown, with a pale border.

SYN. Lichen fuliginosus. *Dicks. Crypt. fasc. 1. 13. With. v. 4. 70. Hull. 299. Achar. Prod. 158.*

Lichenoides fuliginosum et pulverulentum, scutellis rubiginosis. *Dill. Musc. 198. t. 26. f. 100. A.*

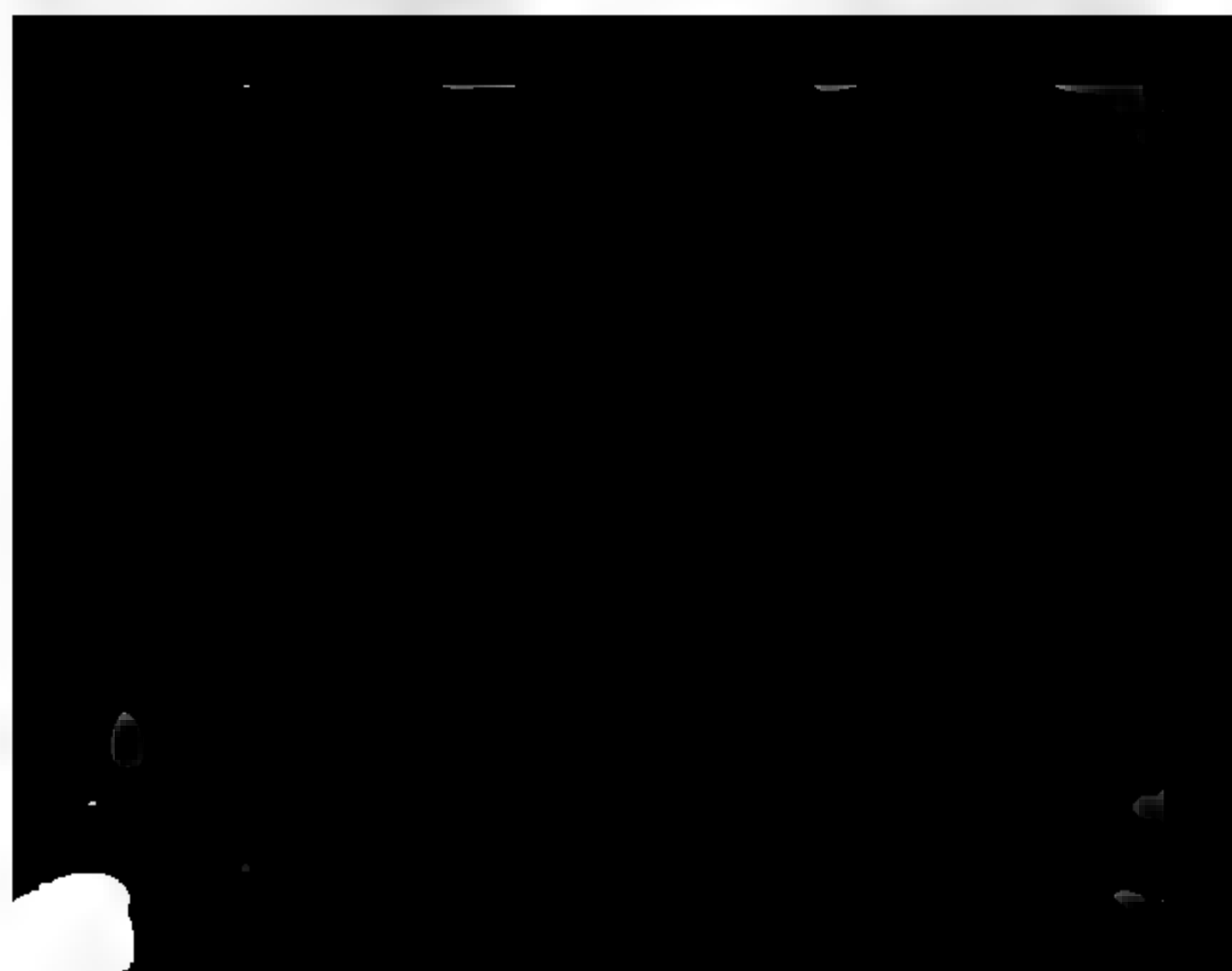
FOUND on rocks, as well as on trees in old dark woods, but only in the alpine counties. We have gathered it about Ambleside, Westmoreland, and at Hafod, Cardiganshire. Mr. E. Forster found it in Rookwood grove, at Boconnoc, Cornwall, and Dillenius, Mr. Griffith and Mr. D. Turner in North Wales.

The fronds spread from a centre in a loosely imbricated manner among moss, generally on the trunks of trees, especially hazels and thorns. Their texture is membranous and

1163



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LICHEN limbatus.
Mealy-bordered leafy Lichen.

CRYPTOGAMIA *Alga.*

GEN. CHAR. Male, scattered warts.

Female, smooth shields or tubercles, in which the seeds are imbedded.

SPEC. CHAR. Membranous, spreading, roundly lobed, glaucous brown, smooth; grey and powdery towards the margin: beneath downy, with white pits. Shields brown.

SYN. Lichenoidis, *Dill. Musc.* 198. t. 26. f. 100, varietas farinosa, B, C.

WE have long ago observed this Lichen, at the roots of trees, and on shady mossy rocks at the Hermitage near Edinburgh, as well as growing with *L. fuliginosus* at Hafod, and are convinced of its being distinct from that species, which Dillenius (who gathered the same in Bagley wood, Oxfordshire) seems also inclined to suspect. The fructification was found by Mr. Menzies in Scotland, and by Mr. D. Turner upon Snowdon. Neither we nor Dillenius could ever discover it.

In form this resembles the preceding, but differs a little in

1104

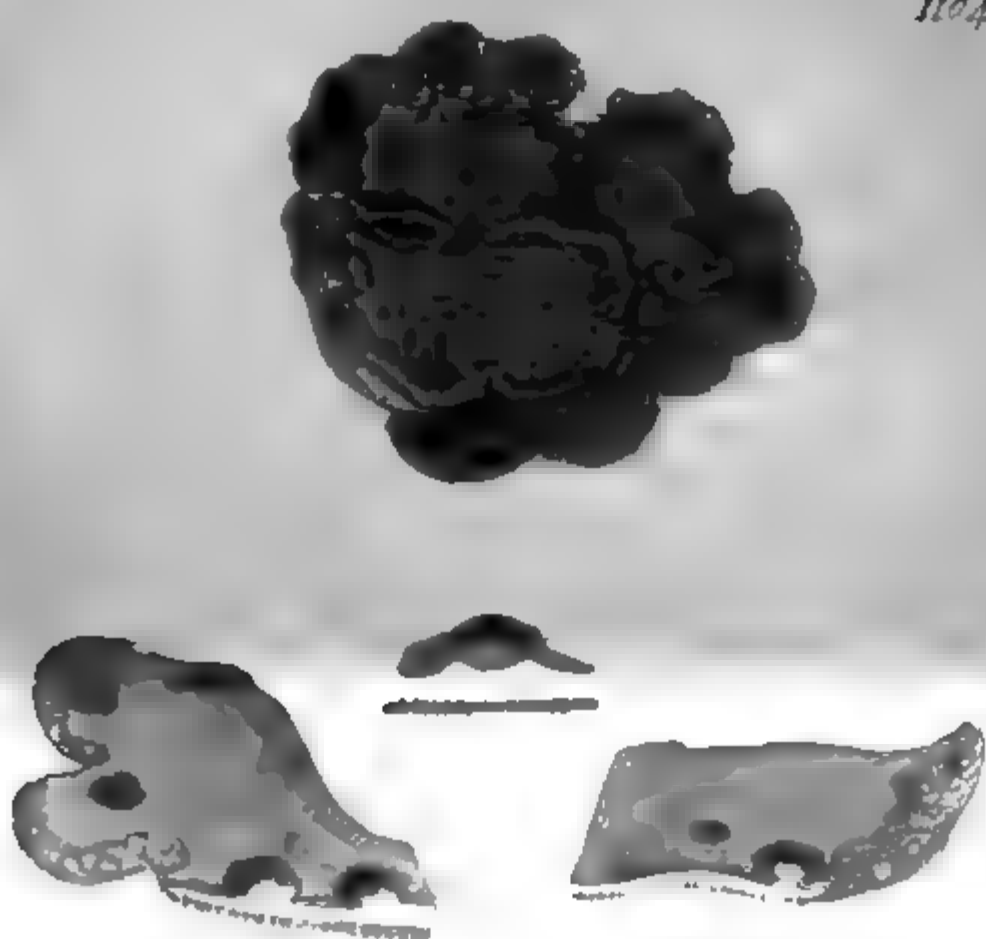


Fig. 1. 120. Published by the British Museum, London



LICHEN *crocatus*.*Yellow-veined Lichen.**CRYPTOGAMIA Algæ.*

GEN. CHAR. Male, scattered warts.

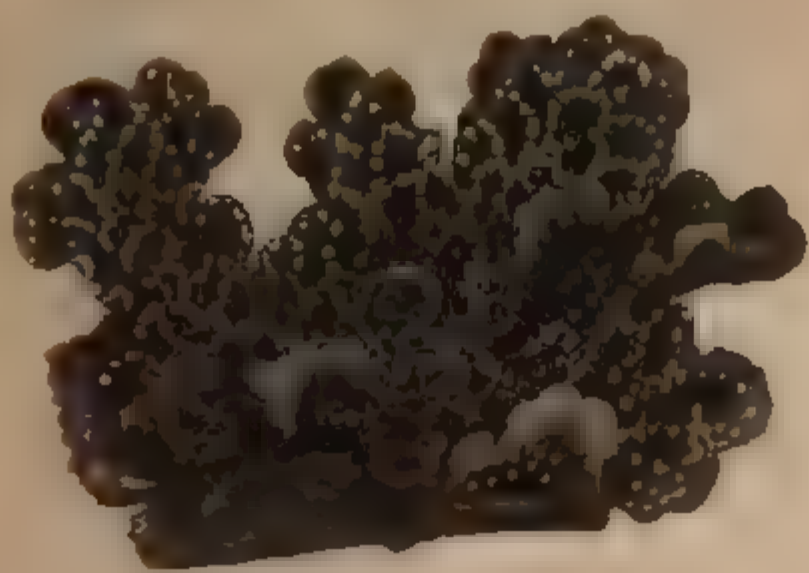
Female, smooth shields or tubercles, in which the seeds are imbedded.

SPEC. CHAR. Somewhat coriaceous and depressed, sinuated, roundly lobed, cellular, glaucous brown; the margin and veins bearing lemon-coloured powder; the dorsal pits lemon-coloured. Shields brownish-black, with a border like the leaf.

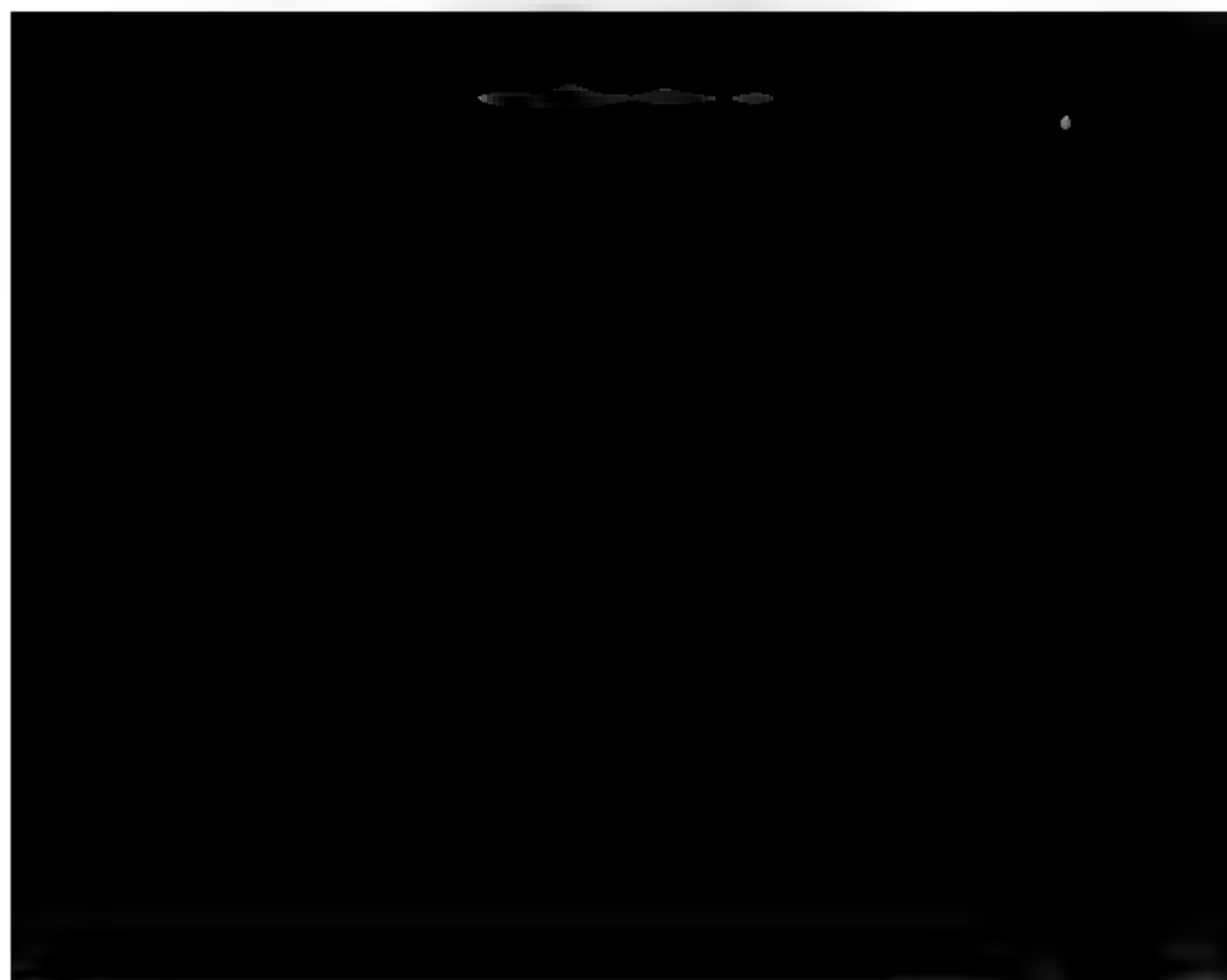
SYN. *Lichen crocatus*. Linn. Mant. 310. Ach. Prod. 158. Dicks. Crypt. fasc. 2 22. H. Sicc. fasc. 4. 24. With. v. 4. 52. Hull. 296.*Sticta crocata*. Ach. Meth. 277.

FOUND first by Mr. Dickson on the Highland rocks of Scotland. Mr. Borrer and Mr. Hooker gathered the specimen in our plate on trees at Inverary.

The fronds spread in a loosely imbricated manner, forming roundish patches, and are rather leathery, sinuated, with rounded notched lobes. The upper surface is of a dull glaucous or greenish brown, full of numerous little smooth hollows, separated from each other by a rude network of elevated veins, which are rough and scurfy, producing a fine lemon-coloured powder. The under side is of a reddish brown, downy, with little smooth lemon-coloured pits interspersed. We have never been so fortunate as to see shields, either in the Linnæan or any other specimens; but they are described as of a brownish black, with a margin like the substance of the frond. No doubt, they are much like those of *L. fuliginosus*, t. 1103.—With this was originally confounded the *Sticta aurata*, Ach. Meth. 277, which, on our representation, the learned author has distinguished from it, and which is figured by Dillenius and Hoffman. Finding this last in Mr. Hudson's British herbarium, we have suspected he might have gathered it in Devonshire; which merits further inquiry.



* and the other by J. L. L. L.



LICHEN auratus.

Golden-edged Lichen.

CRYPTOGAMIA Algae.

GEN. CHAR. Male, scattered warts.

Female, smooth shields or tubercles, in which the seeds are imbedded.

SPEC. CHAR. Somewhat coriaceous, ascending, sinuated, roundly lobed, nearly even, of a shining reddish glaucous light brown; the margin wavy, bearing golden-coloured powder; the dorsal pits bright yellow. Shields

Syn. *Sticta aurata*. Ach. *Meth.* 277.

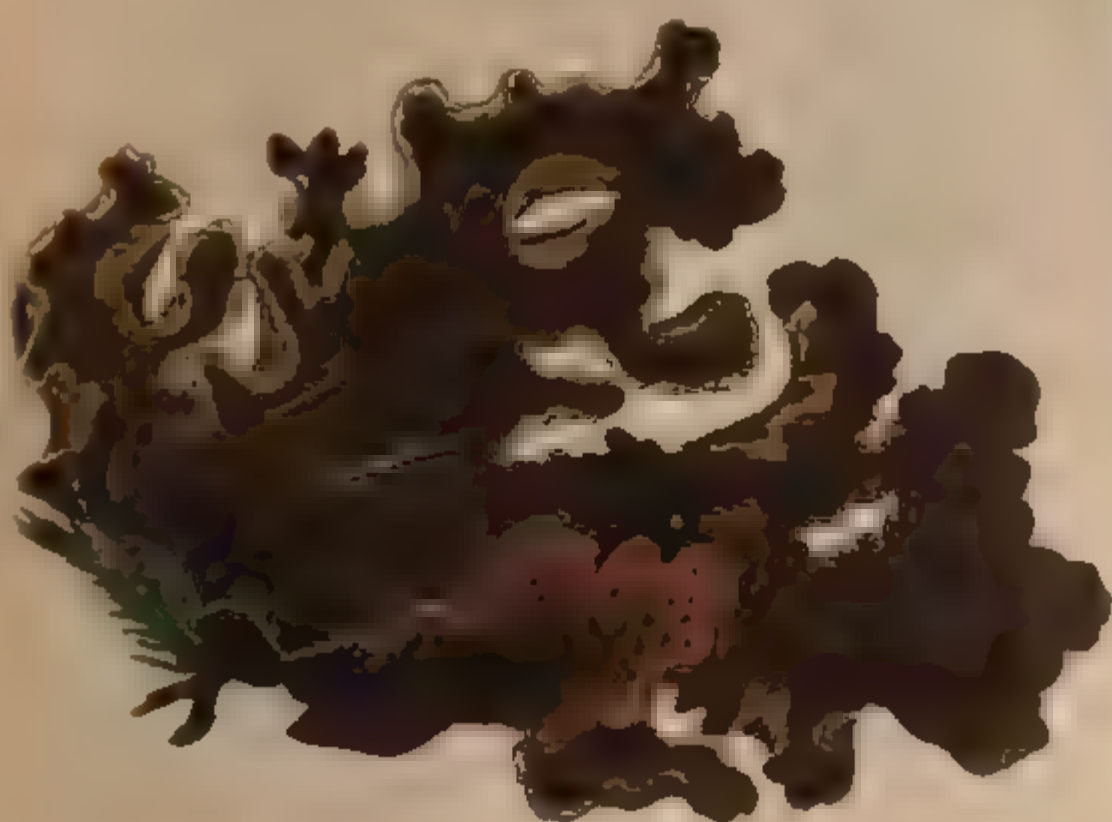
Platisma crocatum. Hoffm. *Pl. Lich.* v. 2. 52. t. 38. f. 1—3.

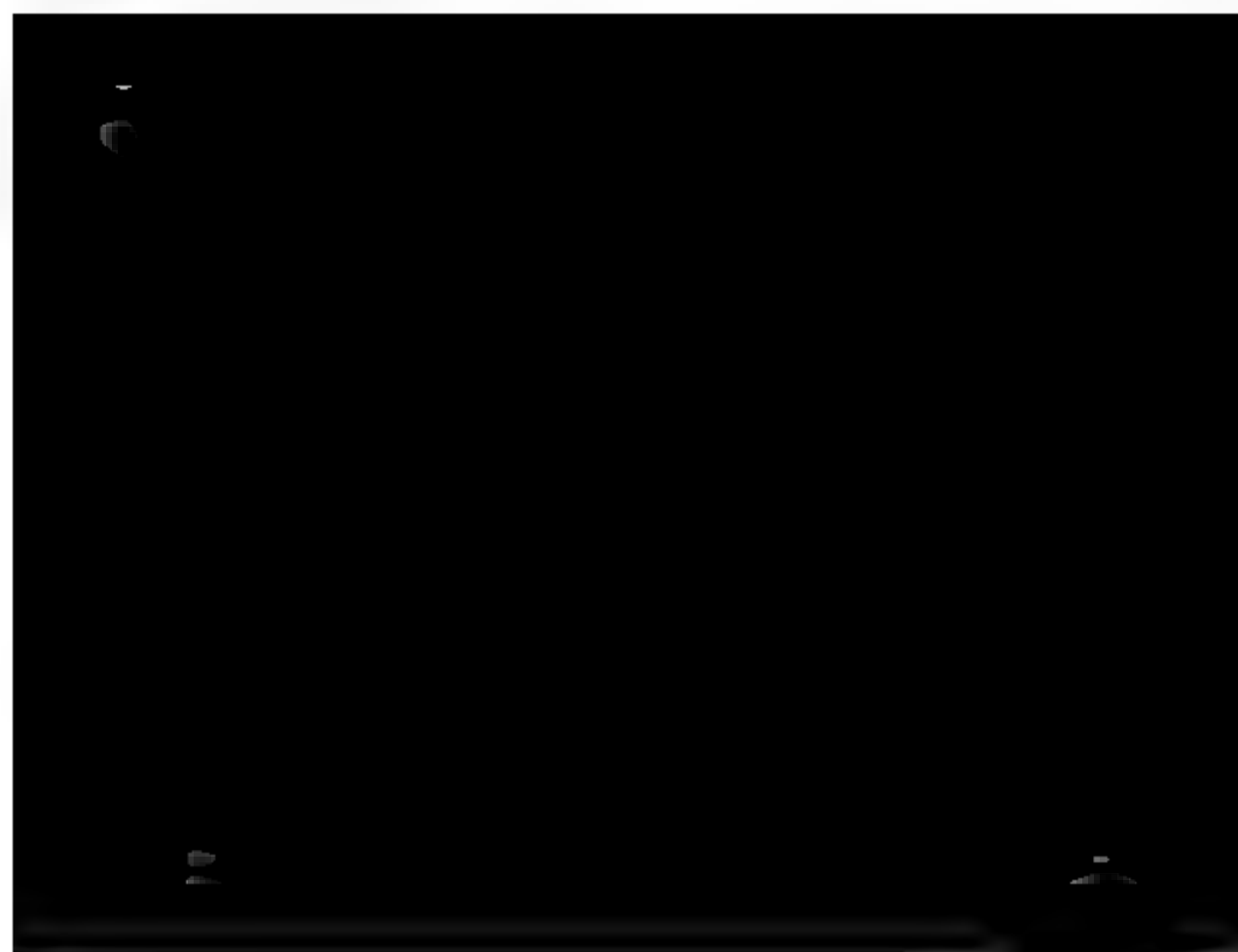
Lichenoides lacunosum rutilum, *marginibus flavis*. Dill. *Musc.* 549. t. 84. f. 12.

PART of a specimen communicated by Mr. Lambert from the remains of Mr. Hudson's herbarium, to which we have alluded in v. 30. p. 2110. If British, of which we have no positive evidence, it was probably gathered in the woody part of Devonshire, which its collector often visited; and as Professor Acharius has mentioned this in his *Methodus*, where, on our authority, he first separated the present magnificent species from *crocatum*, t. 2110, we would not leave our work imperfect by omitting it. Some bits of *Neckera pumila*, t. 1443, attached to the specimen, indicate its growing on trees. The plant is known to be a native of St. Helena and the West Indies; nor dare we deny the possibility of Mr. Hudson's having put into his collection foreign specimens, as an exhibition of *crocatum*, known in his time to have been found in Scotland. Some Devonshire botanist must clear up these uncertainties.

The fronds are larger than in *crocatum*, and less pitted, smooth, destitute of powdery veins, of a bright glaucous reddish brown; the under side downy, blackish towards the middle, with small golden pits. The lobes are sinuated, rounded, crenate and wavy, with tumid, powdery, bright yellow or golden edges. No shields have been observed.

2357







L I C H E N venosus.
Green Veiny Lichen.

CRYPTOGAMIA *Alga.*

GEN. CHAR. Male, scattered warts.

Female, smooth shields or tubercles, in which the seeds are imbedded.

SPEC. CHAR. Leathery, roundish; green and even above; marked beneath with longitudinal branching brown prominent veins. Shields anterior, marginal, horizontal, round, dark-brown, with an entire brown margin.

SYN. Lichen venosus. *Linn. Sp. Pl.* 1615. *Achar. Prod.* 159. *Huds.* 546. *Witb. v.* 4. 69. *Hull.* 299. *Lightf.* 844. *Dicks. H. Sicc. fasc.* 10. 25.

Lichenoides parvum virescens, peltis nigricantibus planis. *Dill. Musc.* 208. *t.* 28. *f.* 109.

Peltigera venosa. *Hoffm. Pl. Lich. t.* 6. *f.* 2.

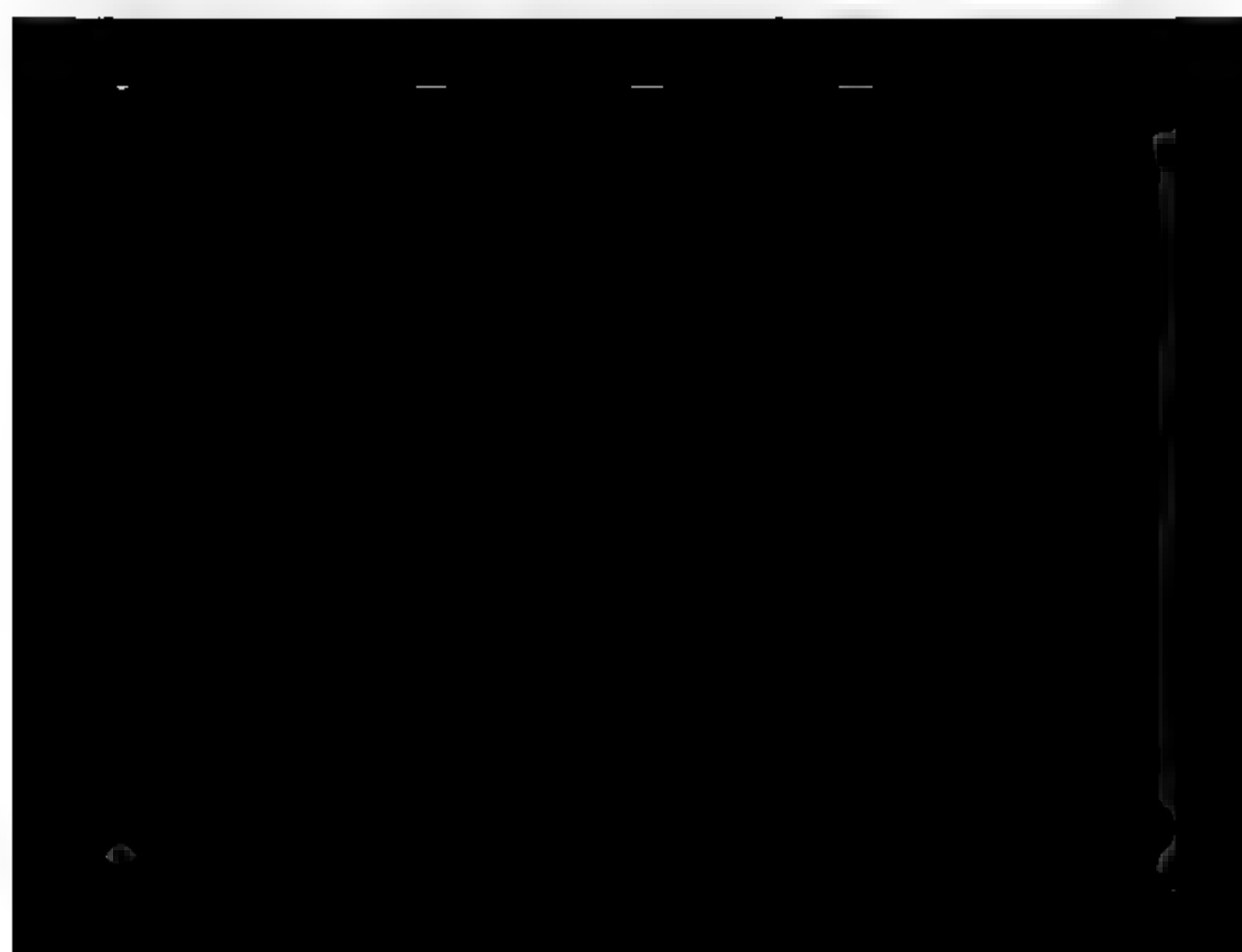
THIS curious little *Lichen* has been found, though rarely, in some parts of Scotland, from whence Mr. Mackay favoured us with specimens; but those in the annexed plate are the first known to be of English growth, having been gathered by Dr. J. Babington close to the town of Ludlow, and they are



187



187





[1542]

LICHEN *spurius*.
Imperfectly-veined Lichen.

CRYPTOGAMIA *Lign.*

GEN. CHAR. *Male*, scattered warts.

Female, smooth shields or tubercles, in which the seeds are imbedded.

SPEC. CHAR. *Leathery*; ash-coloured and even above; whitish, smooth, with indistinct pale veins beneath. Shields anterior, ascending, roundish, dark reddish brown.

SYN. *Lichen spurius*. *Act. Prod.* 159.

Pelidea spuria. *Act. Meth.* 283. t. 5. f. 2.

MR. BORRER found this Lichen on thatch at Hurst-pierre-point, Sussex, in July last, and communicated specimens to me, which agree with those of Dr. A. ... Mr. Turner.





Dec 1890 Published by J. L. L. L. L.





LICHEN horizontalis.

Brown Horizontal Lichen.

CRYPTOGAMIA Alga.

GEN. CHAR. Male, scattered warts.

Female, smooth shields or tubercles, in which the seeds are imbedded.

SPEC. CHAR. Leathery, spreading, lobed, polished, glaucous greenish brown; beneath covered with a network of brown veins. Shields standing on small lobes, sessile, anterior, horizontal, round, reddish, with a pale notched border.

SYN. Lichen horizontalis. Linn. Mant. 132. Achar. Prod. 160. Huds. 548. With. v. 4. 72. Hull. 300. Lightf. 849. Abbot. 267. Dickf. H. Sicc. fasc. 16. 24.

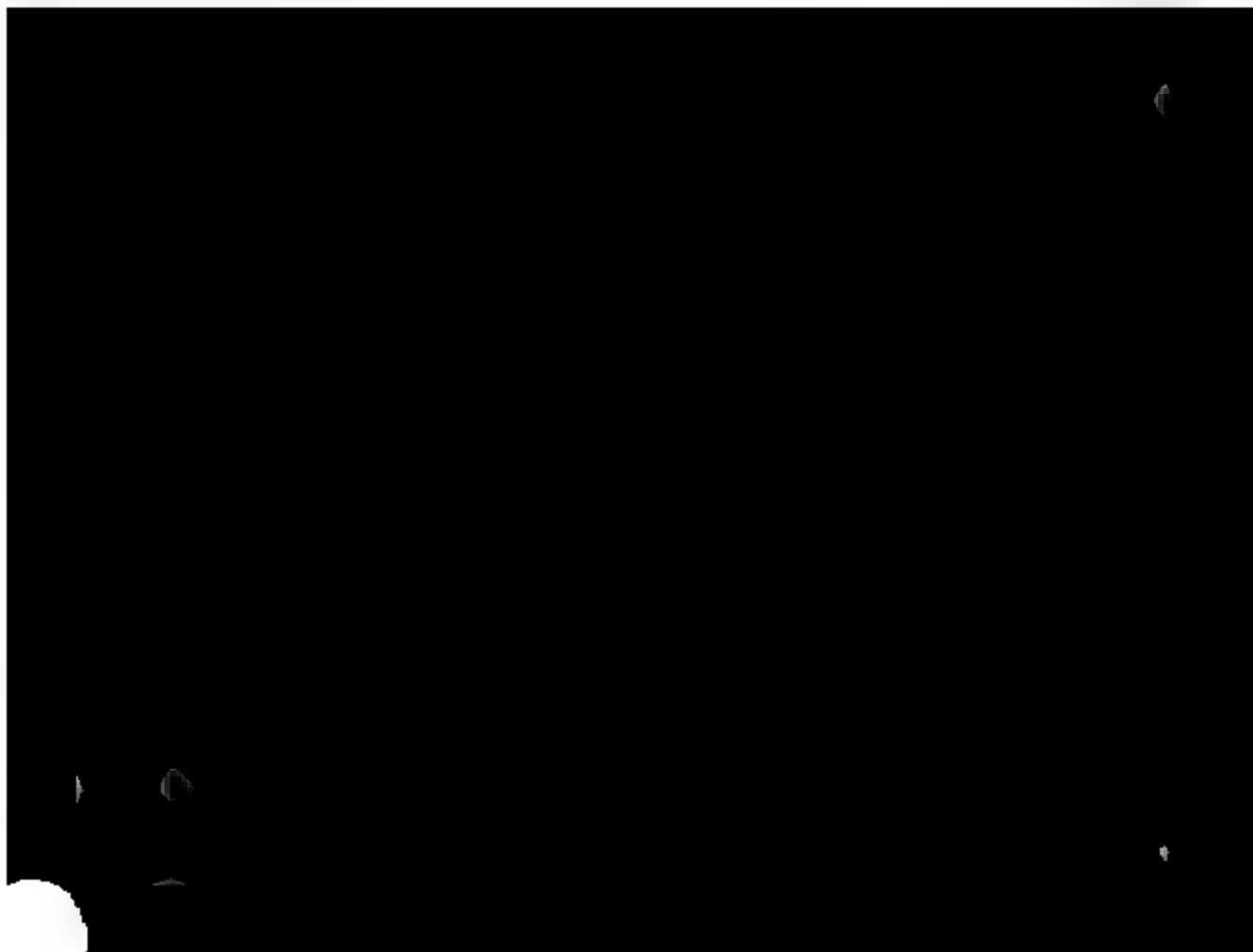
Lichenoides subfuscum, peltis horizontalibus planis. Dill. Musc. 205. t. 28. f. 104.

FOUND on moist mossy rocks in woods in the mountainous parts of Great Britain not unfrequently. We received it from the Rev. H. Davies of Aber, North Wales.

It may seem wonderful that Linnæus should ever have confounded this with *L. venosus*, which nevertheless appears by his description to have been the same, nor did he describe the

189







LICHEN caninus.

Ash-coloured Ground Lichen.

CRYPTOGAMIA Algæ.

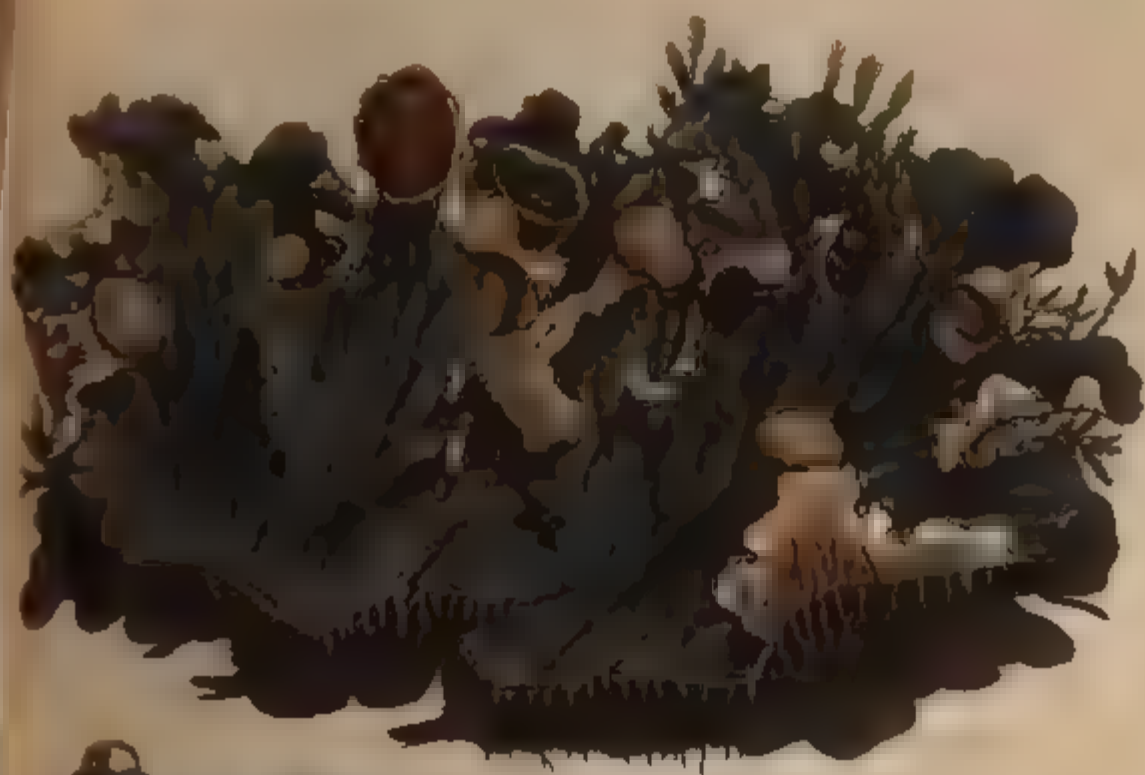
GEN. CHAR. Male, scattered warts.

Female, smooth shields or tubercles, in which the seeds are imbedded.

SPEC. CHAR. Frond coriaceous, dilated, ascending, furrowed, grey; white, with brown veins and fibres, beneath; lobes very broad, with marginal, fruit-bearing processes. Shields in front, vertical, revolute, roundish, red-brown, with a pale border.**SYN.** *Lichen caninus.* Linn. *Sp. Pl.* 1616. Achar. *Prod.* 160. Huds. 546. With. v. 4. 69. Hull. 299. Relh. 465. Sibth. 331. Abbot. 267. Woodv. *Med. Bot. Suppl.* t. 273.*Lichenoides digitatum cinereum, lactucæ foliis sinuosis.* Dill. *Musc.* 200. t. 27. f. 102.*L. peltatum terrestre cinereum majus, foliis divisis.* Rati *Syn.* 76.*Peltidea canina.* Achar. *Meth.* 283. Winch. v. 2. 61.

EVERY where abundant on heaths, banks, and about the roots of trees in shady woods. It is known by its larger size, more ash-coloured, and furrowed as if veiny, upper surface, and copious, distant, large, bright bay shields, from all of the same tribe; several of which are nearly related to, and have been considered as varieties of, the present plant. The leathery fronds form great patches, and when young especially are of a fine light grey, without polish, above; by age and repeated wet they grow darker. Warts are often found about the edges. The whitish under side has copious brown elevated veins, and often blackish, evenly scattered, radicles. At the margin are solitary, simple, broadish, convex lobes, each bearing only one large, perpendicular, orbicular, at length recurved, shield. This is the "Ash-coloured Ground Liverwort," once celebrated as a cure for the bite of a mad dog; but we believe it never acted, even on the imagination of the patient, though it might on that of the learned Dr. Mead. See Dill. *Musc.* 202.

2290



THE UNIVERSITY OF CHICAGO

PHILOSOPHY DEPARTMENT

1998-1999

PHILOSOPHY 101

PHILOSOPHY 102

PHILOSOPHY 103

LICHEN rufescens.
Dark-coloured Ground Lichen.

CRYPTOGAMIA Algæ.

GEN. CHAR. Male, scattered warts.

Female, smooth shields or tubercles, in which the seeds are imbedded.

SPEC. CHAR. Frond coriaceous, rigid, concave, even, dark reddish-brown; pale, downy, with obsolete veins, beneath; lobes rounded, with numerous fruit-bearing processes. Shields in front, vertical, roundish, dark brown, with a pale border.

SYN. Lichen rufescens. Necker *Musc.* 79. Achar. *Prod.* 166. With. v. 4. 70. Hull. 299.

L. caninus β . Huds. 546. Sibth. 331. Lightf. 846.

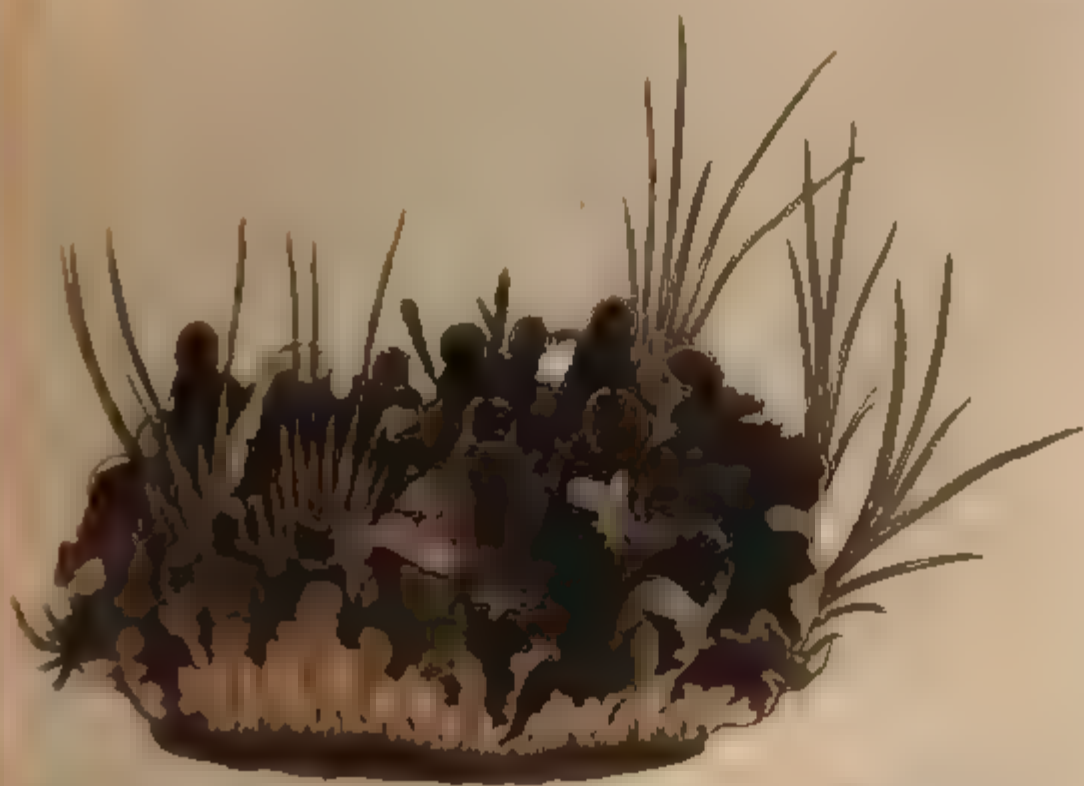
Lichenoides digitatum rufescens, foliis lactucæ crispis. Dill. *Musc.* 203. t. 27. f. 103.

L. peltatum terrestre rufescens. Raii *Syn.* 77.

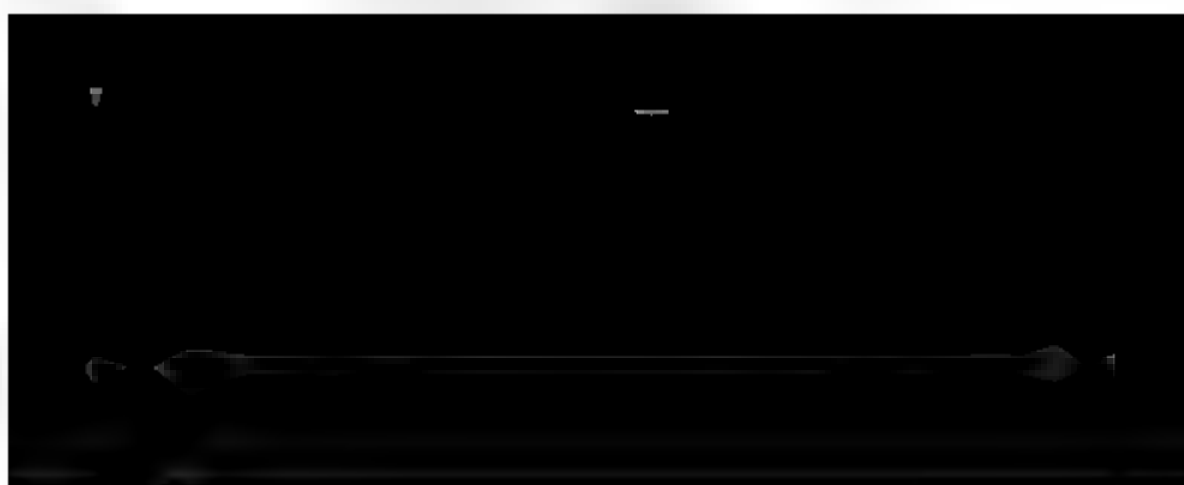
Peltidea rufescens. Ach. *Meth.* 285; excluding the variety β . Winch. v. 2. 61.

EVEN more common than *L. caninus*, t. 2299, with which it is frequently confounded, but from which it differs sufficiently, as Dillenius well remarks, in the fronds being smaller, thicker and more rigid; their upper side concave in consequence of the inflexed margins, very smooth and even, except when cracked so as to look as if veined, of a darker sooty hue; turning reddish, or deep chesnut, in drying. The under side is more downy, with broader, more obsolete or superficial, veins. Shields numerous, smaller, and of a much darker brown.

Our learned friend Acharius, in his *Methodus*, makes *L. scutatus*, t. 1834, a variety of this; but in a letter dated Nov. 12, 1803, he, with his accustomed candour, acknowledges that he may be mistaken, and confesses himself not well acquainted with our true *rufescens*. Wulfen's figure, in Jacq. Coll. v. 4. t. 15, which seems to us *horizontalis*, may have misled Acharius respecting the *rufescens*.



... ..



[1834]

LICHEN scutatus.

Target-fruited Leathery Lichen.

CRYPTOGAMIA Algæ.

GEN. CHAR. Male, scattered warts.

Female, smooth shields or tubercles, in which the seeds are imbedded.

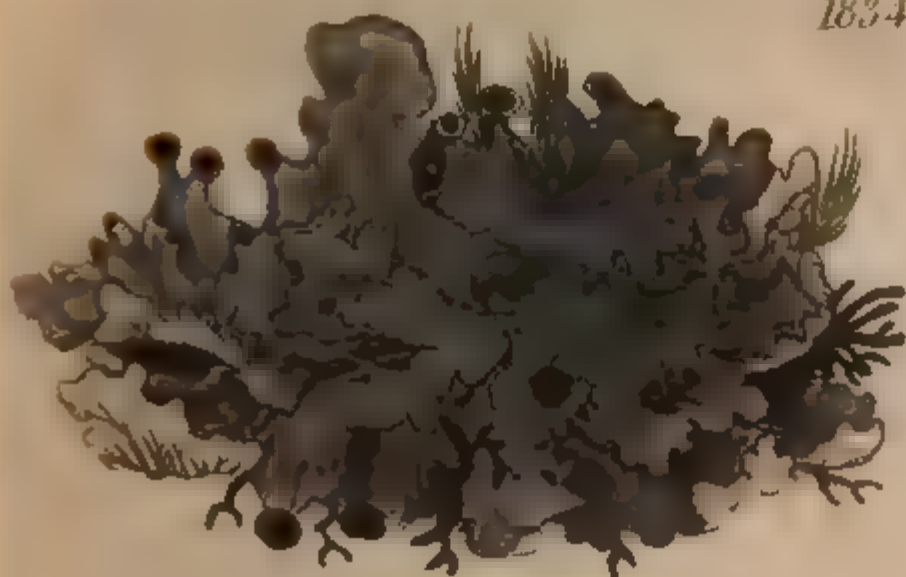
SPEC. CHAR. Frond coriaceous, spreading, brownish grey; pale, reddish, and veiny beneath; lobes oblong, their margin crisped and powdery. Shields in front, somewhat stalked, round, dark brown, with an inflexed, pale, crenate border.

SYN. Lichen scutatus. *Dicks. Crypt. fasc. 3. 18, without the synonym. With. v. 4. 71. Hull. 300. Ach. Prod. 166.*L. collinus. *Ach. Prod. 162.*Peltidea scutata. *Ach. Meth. 285.*P. rufescens β . *Ach. Meth. 285.*

I FOUND this on trees in Westmoreland in 1782, (when, for want of fruit, no one would dare to determine it,) and in fine perfection at Hafod many years after. It proves to be Mr. Dickson's *L. scutatus*, as he himself informs me; consequently what Professor Acharius has adopted from him under that name. That it is the *collinus* also of the last author, is determined by his own examination of my specimens. How far he is now right in making it a variety of *rufescens*, must be left for future consideration. As to the *scutatus* of Wulfen, it is most evidently the *sepincola*, and surely not even a variety.

Our present specimen was gathered on trees at Inverary by Mr. Turner and Mr. W. J. Hooker. The fronds spread in broad loose patches, like the imbricated Lichens, over the trunks of old trees, among *L. pulmonarius*, &c. They are leathery, smooth and of a brownish or greenish grey above; pale with reddish as well as black veins beneath, though naked of fibres except the actual roots. The lobes are singularly elongated, and as remarkably crisped and powdery at their edges. Their extremities form a kind of stalk to the flat, round, dark-brown shields, each of which has a narrow, inflexed, crenate, pale border.—Our English translators make Mr. Dickson describe this as “veinless” beneath, though he only says *nudus*.

1834



See also Plate 10 of the same volume.

✓



[1119]

LICHEN aphthosus,
Thrush Lichen.

CRYPTOGAMIA *Alga.*

GEN. CHAR. Male, scattered warts. Female, smooth shields or tubercles, in which the seeds are imbedded.

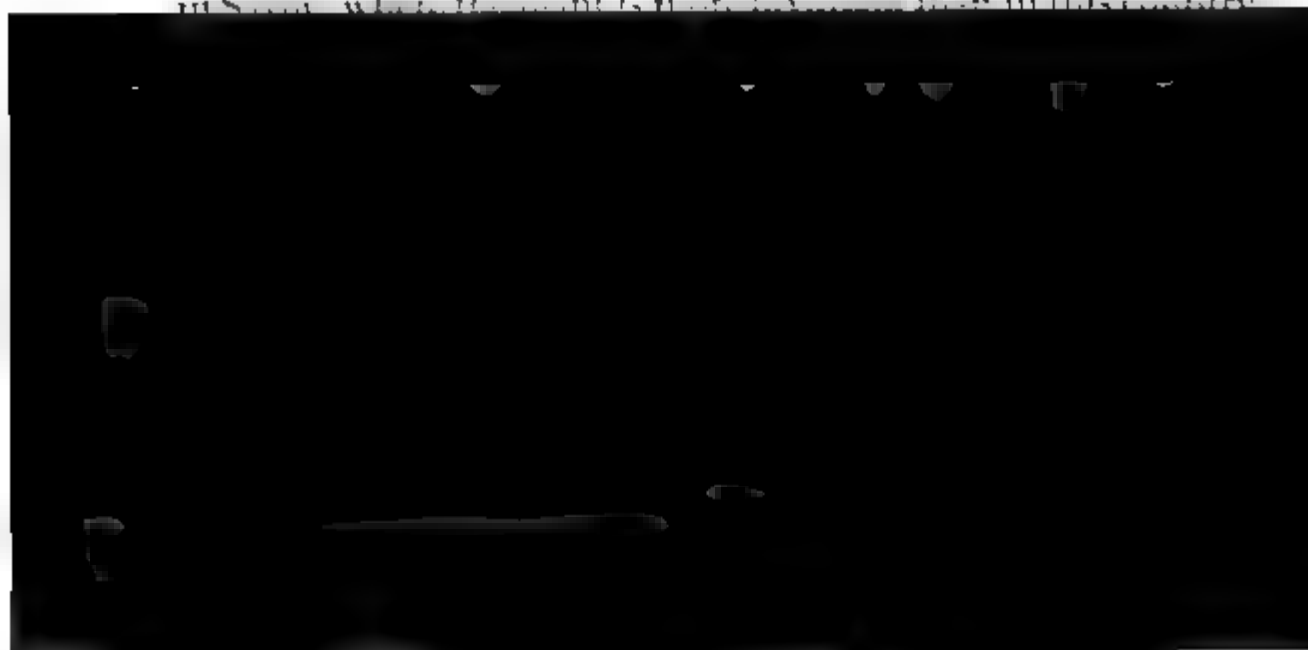
SPEC. CHAR. Leathery, spreading, roundly lobed, smooth, green, sprinkled with brown warts; beneath fibrous, slightly veined. Shields on narrow ascending lobes, anterior, roundish, reddish.

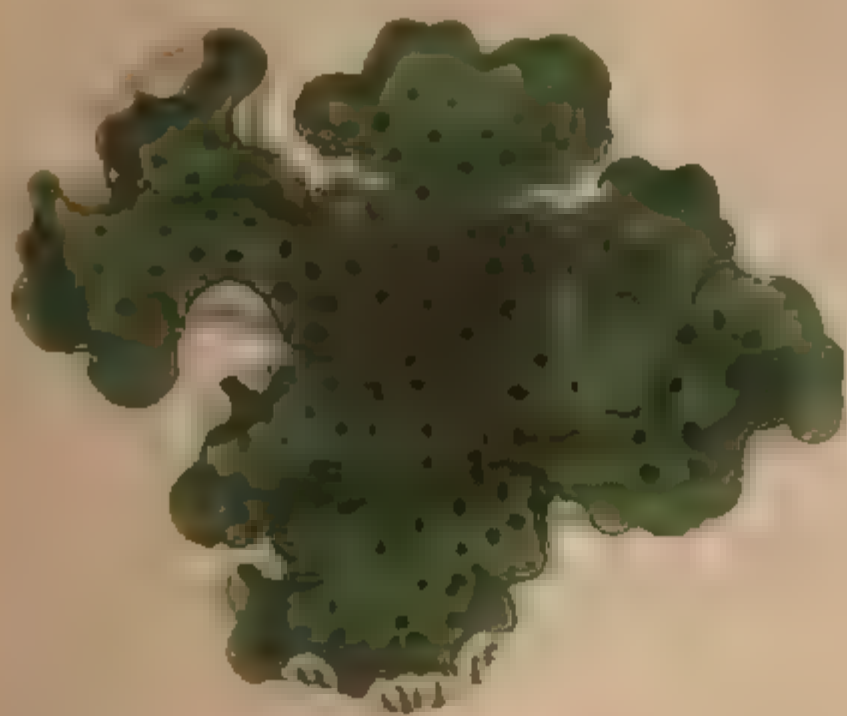
SYN. Lichen aphthosus. *Lim. Sp. Pl.* 1616. *Huds.* 547. *Willd.* v. 4. 70. *Hull.* 299. *Lightf.* 847.

Lichenoides digitatum lætè virens, verrucis nigris notatum. *Dill. Musc.* 207. t. 28. f. 106.

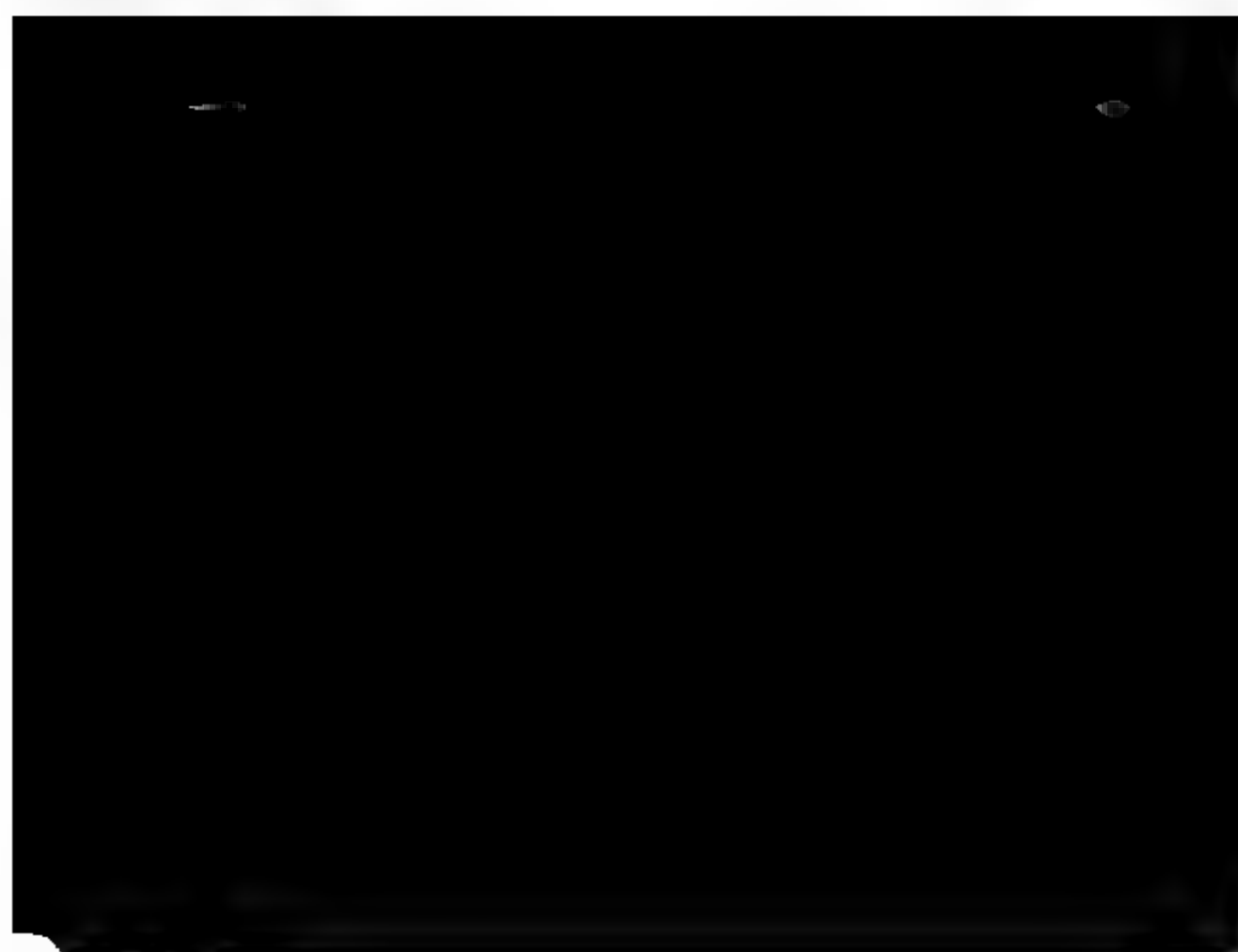
Peltigera aphtosa. *Hoffm. Pl. Lich.* t. 6. f. 1.

WE have received this from our often-mentioned friends Mr. Relhan, Mr. Harriman, and Mr. D. Turner. It is found only in alpine rocky shady places, growing on the ground under firs or juniper bushes. Having never seen a British specimen in fruit, we have been obliged to delineate a shield gathered in Spain, where the plant is more common than in this country.





Small, faint text or markings, possibly a signature or date, located below the small objects.



LICHEN resupinatus.

Reversed Lichen.

CRYPTOGAMIA Age.

GEN. CHAR. Male, scattered warts. Female, smooth
 stichia or tubercles, in which the seeds are im-
 bedded.

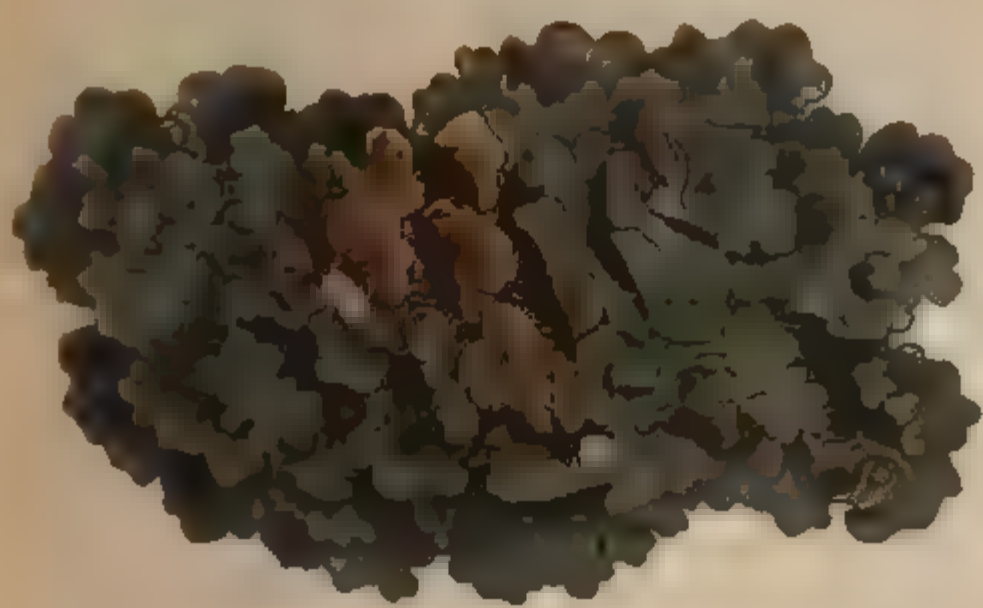
SPEC. CHAR. Coriaceous, creeping, lobed, brown.
 Sticks marginal, on the under side of the frond.

SYN. Lichen resupinatus. *Lin. Sp. Pl.* 1615. *Huds.*
Fl. An. 545. *Lig. Scot.* 343. *With. Bot. Arr.*
v. 3. 905.

*Lichenoides saxatile fuscum, petis in averna foliorum
 superficie locatis. Rati Syn.* 77.

L. fuscum, petis posticis ferrogineis. Dill. Musc. 206.
t. 28. f. 105.

IN woods, clinging close to the mossy stems and roots of
 trees, and also on rocks, in the mountainous parts of Great







[1860]

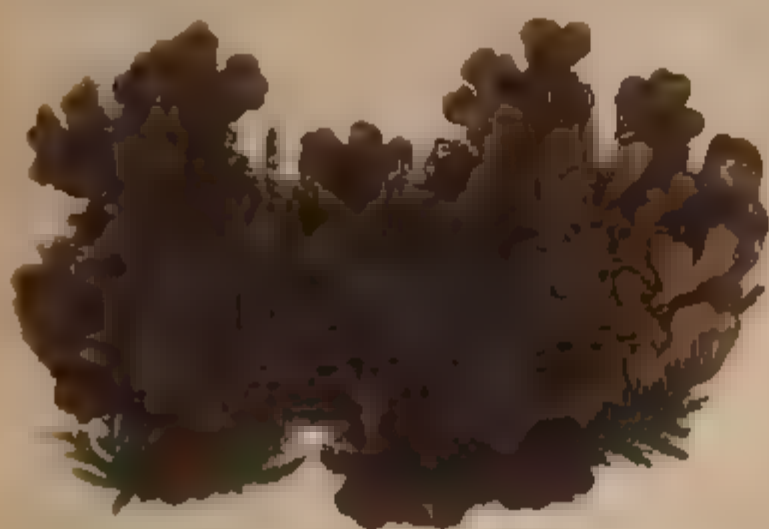
LICHEN *parvulus*.*Climacium Reversed Lichen.**CHEPTUGALLA* *Apo.**Comp. Comp.* Male. scattered warts.

Female. smooth discs or tubercles, in which the male are imbedded.

Form. Comp. Somewhat cushioned, creeping, lobed, ~~irregular~~ *irregular* convex and wavy, greenish or purplish brown, beset with superficial or marginal, dark, powdery warts. Shells red brown, broader than long, on the under side of the shorter lobes at their ends.*Sex. Lichen parvulus.* Ach. Prodr. 164.*Peltidea parvulus.* Ach. Meth. 259.

SENT by the Rev. E. Williams from an old stone-quarry in Shropshire in 1860. We discovered the same on the alps of Switzerland in 1787, but have never seen the shells. Having transmitted a specimen to Professor Acharius, to inquire whether it were his *L. parvulus*, he answers, "it is undoubtedly so, and certainly a totally distinct species," though mentioned as doubtful in his works. "It dyes wool blue, which is not the case with *verrucosus*, nor do their modes of growth, nor

2360



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L I C H E N croceus.


Saffron-coloured Lichen.

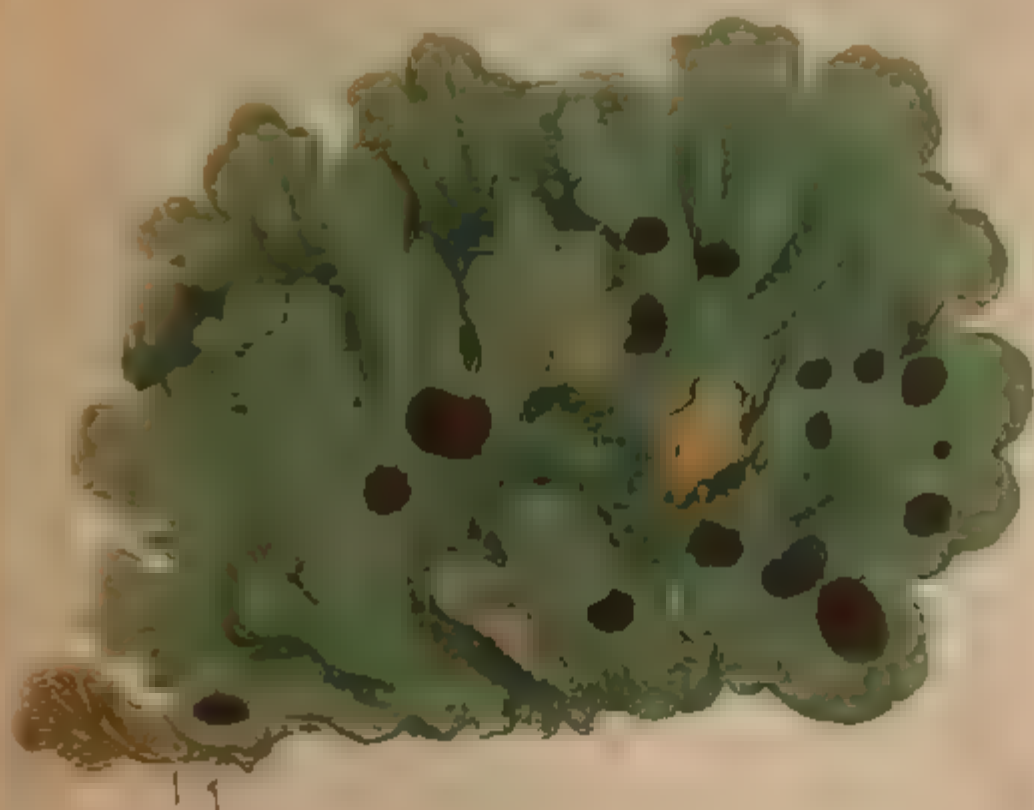
*CRYPTOGAMIA Alga.***GEN. CHAR.** Male, scattered warts.

Female, smooth shields or tubercles, in which the seeds are imbedded.

SPEC. CHAR. Coriaceous, creeping, roundish, flat; beneath veiny, downy and saffron-coloured. Shields scattered, flat, closely attached to the frond.**SYN.** Lichen croceus. *Linn. Sp. Pl.* 1616. *Huds.* 548. *Witb. V.* 4. 68. *Jacq. Coll. V.* 4. 255. *t.* 11. *f.* 2, 3.*Lichenoides subtus croceum, peltis appressis. Dill. Musc.* 221. *t.* 30. *f.* 120.*Peltigera crocea. Hoffm. Pl. Lieb. t.* 41. *f.* 2-4. *t.* 42. *f.* 4, 5.

ONE of the most beautiful, as well as the most rare, of our alpine Lichens, for fresh specimens of which we are indebted to Mr. Den of Forfar, and Mr. Mackay of Edinburgh; and these









LICHEN saccatus.

Socket Lichen.

CRYPTOGAMIA *Algæ.*

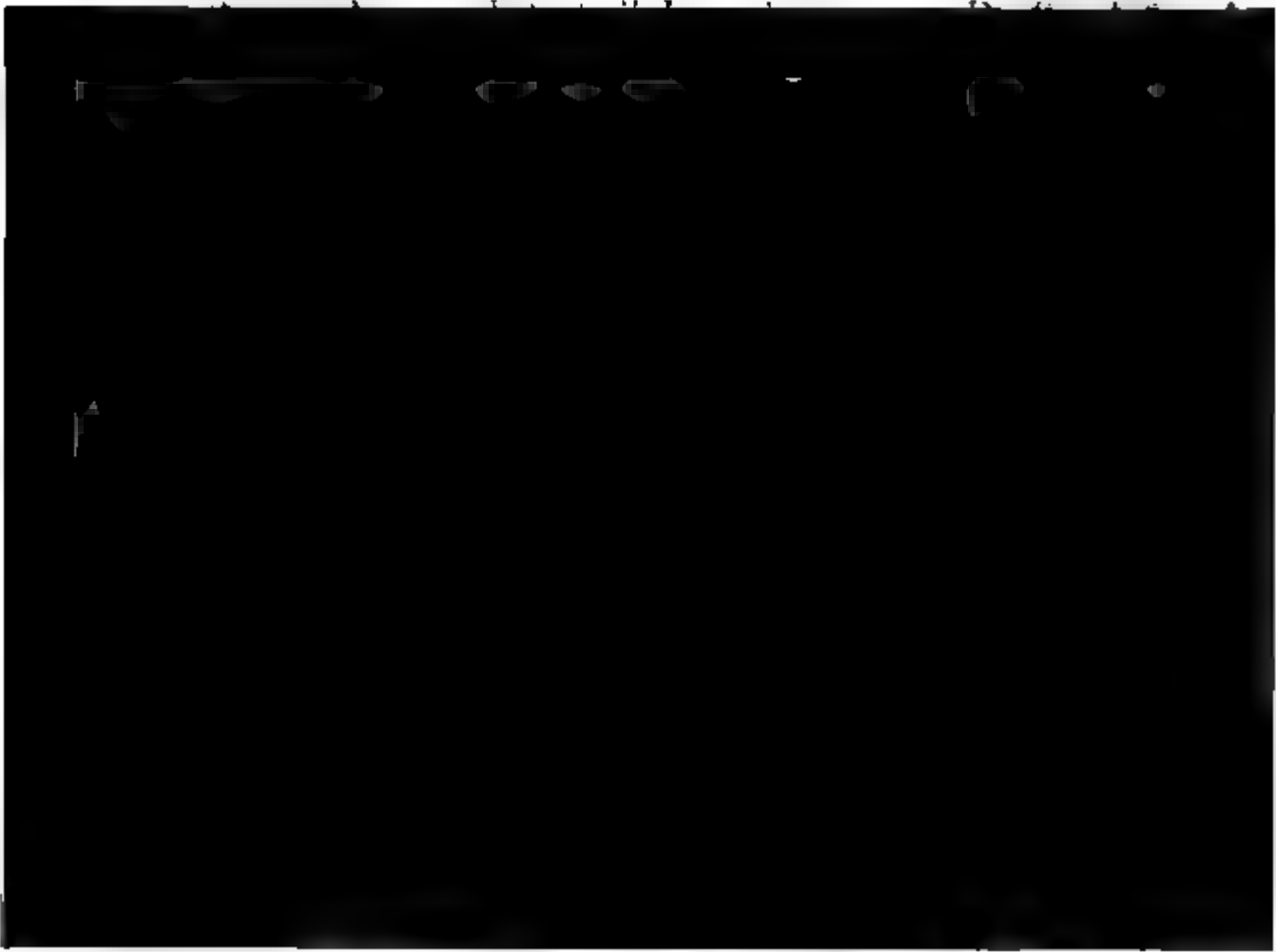
GEN. CHAR. Male, scattered warts.

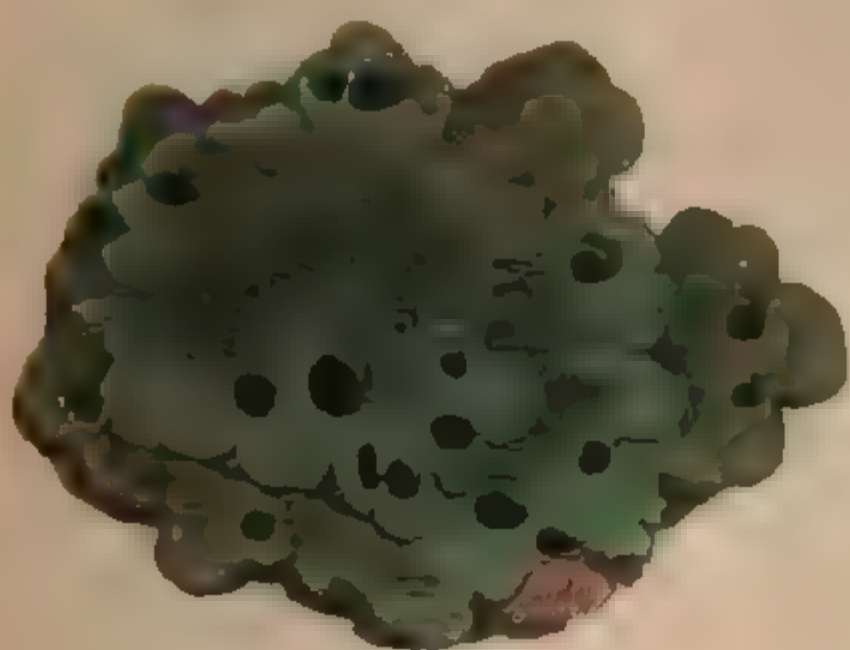
Female, smooth shields or tubercles, in which the seeds are imbedded.

SPEC. CHAR. Coriaceous, creeping in a somewhat circular form. Shields sunk into deep pits in the leaf, projecting on the under side.

SYN. Lichen saccatus. *Linn. Sp. Pl.* 1616. *Huds. Fl. An.* 548. *With. Bot. Arr.* v. 3. 205. *Lightf. Scot.* 855.Lichenoides Lichenis facie, peltis acetabulis immersis. *Dill. Musc.* 221. t. 30. f. 121.

THE native place of growth of this Lichen is (as Mr. Lightfoot well expresses it) “upon the earth in the chasms of rocks







[1606]

LICHEN glaucus.
Glaucus Leafy Lichen.

CRYPTOGAMIA Age.

GEN. CHAR. Male, scattered warts.

Femine. smooth shields or tubercles, in which the seeds are imbedded.

SPEC. CHAR. Membranaceous, smooth, polished on both sides, lobed, jagged and curled; glaucous above; black beneath. Shields marginal, slightly bordered, red brown; at length flat, smooth.

SYN. Lichen glaucus. Linn. Sp. Pl. 1615. Achar. Prod. 167. Hedl. 543. With. t. 4. 53. Hull. 296. Lign. 333. Sm. Tear, t. 1. 336.

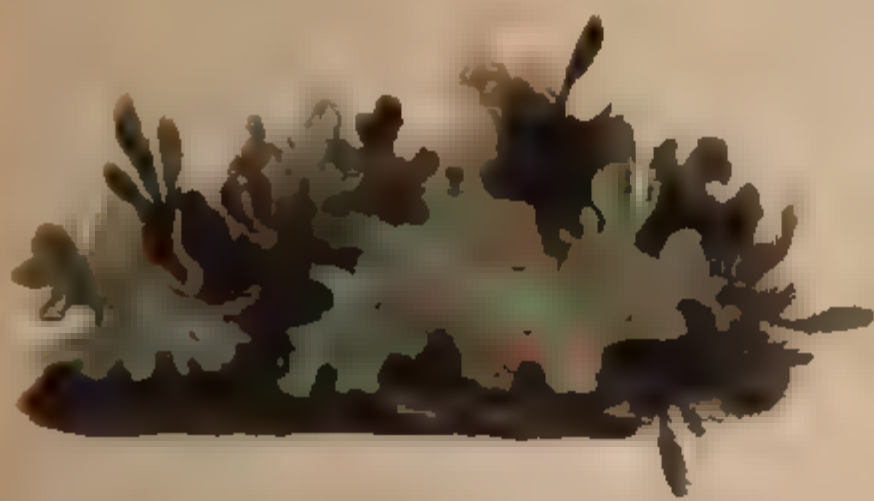
Lichenoides eximia foliis crispis et splendentibus, subtus nigricantibus. Dill. Musc. 192. t. 25. f. 96.

Cetraria glauca. Ach. Meth. 296.

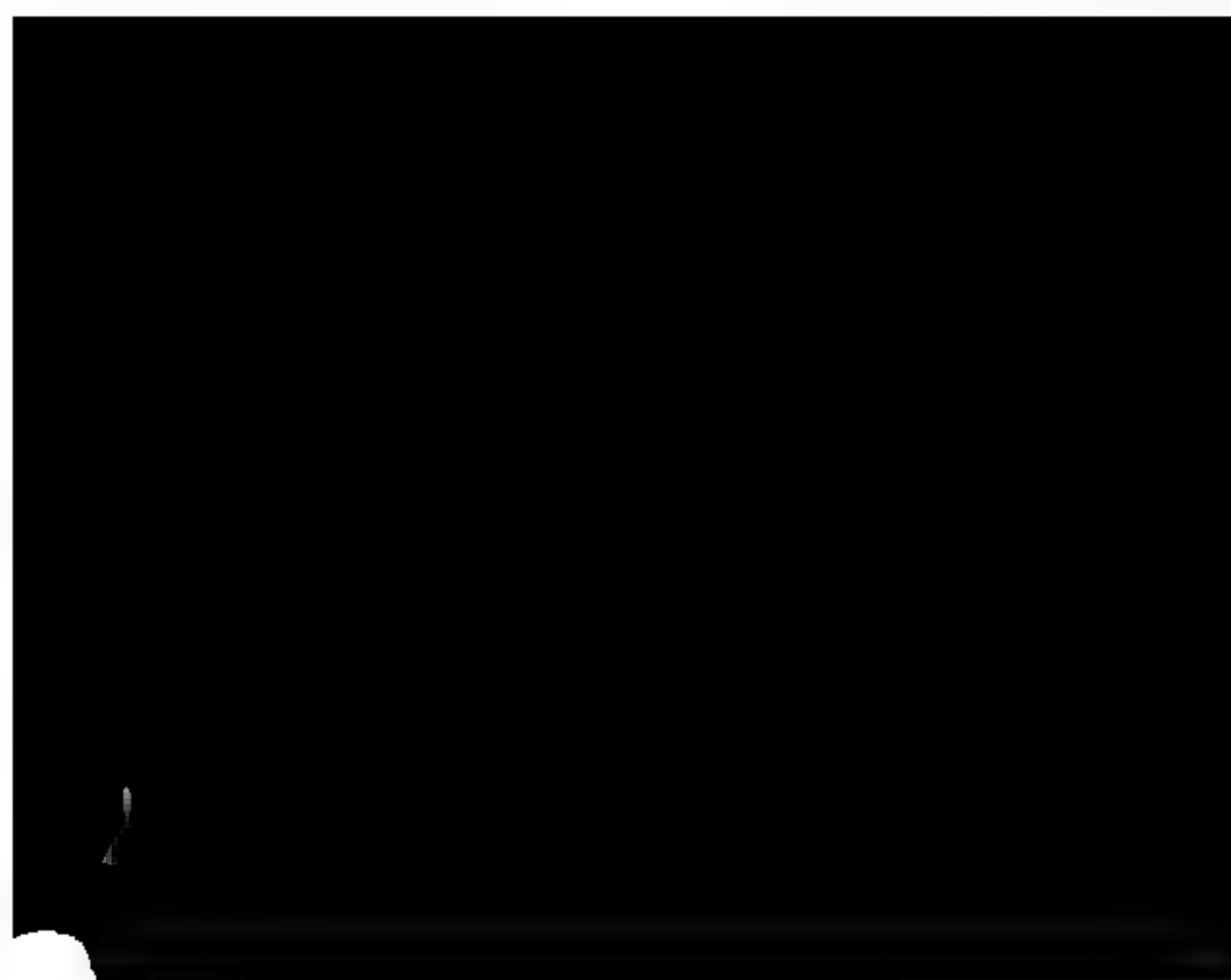
THIS Lichen is found in mountainous countries on rocky moors or heaths, as well as on the trunks of old trees. The late Rev. H. Bryant first observed it in Norfolk on old pales at Sall. The Rev. G. R. Leathes sent us specimens from damp parts of the heath near the place of growth of *Buxbaumia aphylla*, t. 1396. We subjoin a figure of the only British specimen we have ever seen in fructification, communicated by Mr. Dickson from Scotland, which is the more valuable, as Acharius himself never saw the shields, and it is not clear that Dillenius really knew them.

The fronds form loose straggling tufts, and are thin and membranous, very pliable when wet, smooth and shining on both sides when dry, variously lobed, sinuated and curled; glaucous variegated with brown above; black, but pale at the edges, underneath. The shields grow on or near the margin, almost sessile; when young they are convex, with a jagged inflexed border of the substance of the frond; when old they are flat; at all times smooth, of a red brown, or bay colour.

When the frond is morbidly inflated it becomes the *L. ampullaceus* of Linnæus, as I have verified by specimens belonging to Mr. Menzies. See *Trans. of L. Soc. v. 7. 112*, and *Ach. Meth. 297*.



Handwritten text, likely a label or description, located below the specimens.





[2111]

LICHEN pinastri.

*Gelatin Pine Lichen.**CRYPTOGAMIA Age.*

GEN. CHAR. Male, scattered warts.

Female, smooth shields or tubercles, in which the male are imbedded.

SPEC. CHAR. Membranous, depressed, smooth, and of a pale glaucous brown, on both sides; the margin elevated, curled, roundly lobed, bearing copious bright-yellow powder. Shields bright bay, with a yellow crenate border.

SYN. Lichen pinastri. Scop. Corv. v. 2. 382. Ach.
Fung. 163. Dicks. Crypt. fasc. 3. 18. With.
v. 4. 51. Hb. 296.

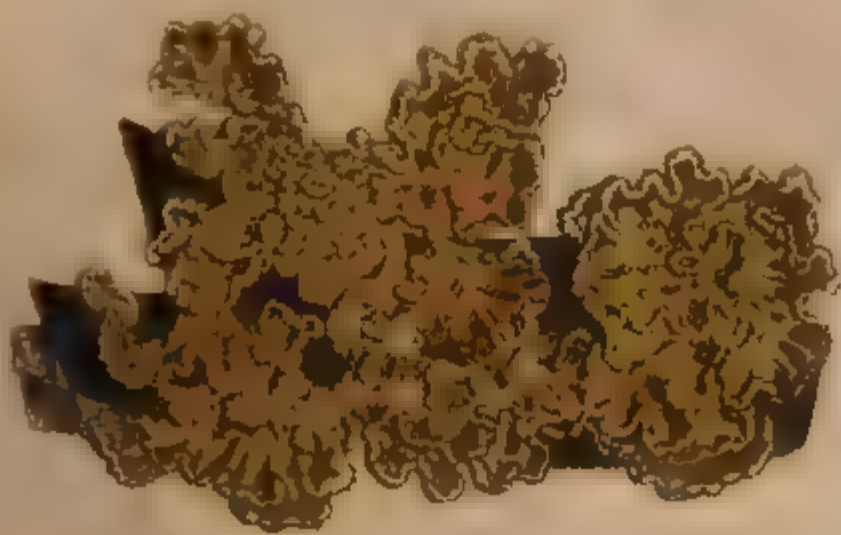
Squamaria pinastri. Hoffm. Pl. Lich. t. 7. f. 1.

Cetraria juniperina G. Ach. Meth. 296.

MR. DICKSON first noticed this species on the trunks of Scotch firs in the Highlands. Mr. Turner very unexpectedly detected a few small plants of the same on Mr. Rigby's pales at Framingham near Norwich, the most elevated spot in Norfolk, one of which is drawn at fig. 1.

This is truly a beautiful as well as very rare Lichen. The

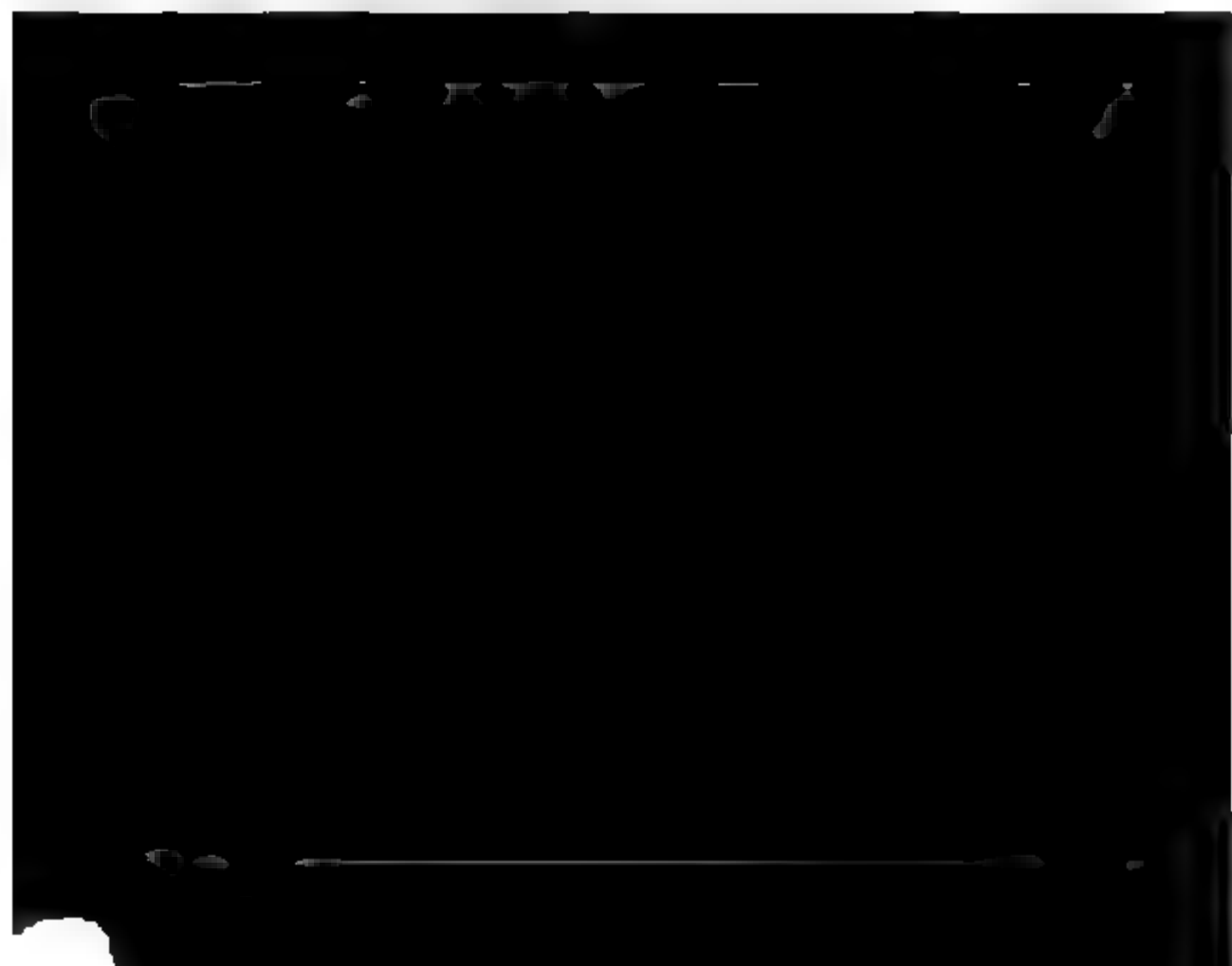




Collected by J. L. Smith

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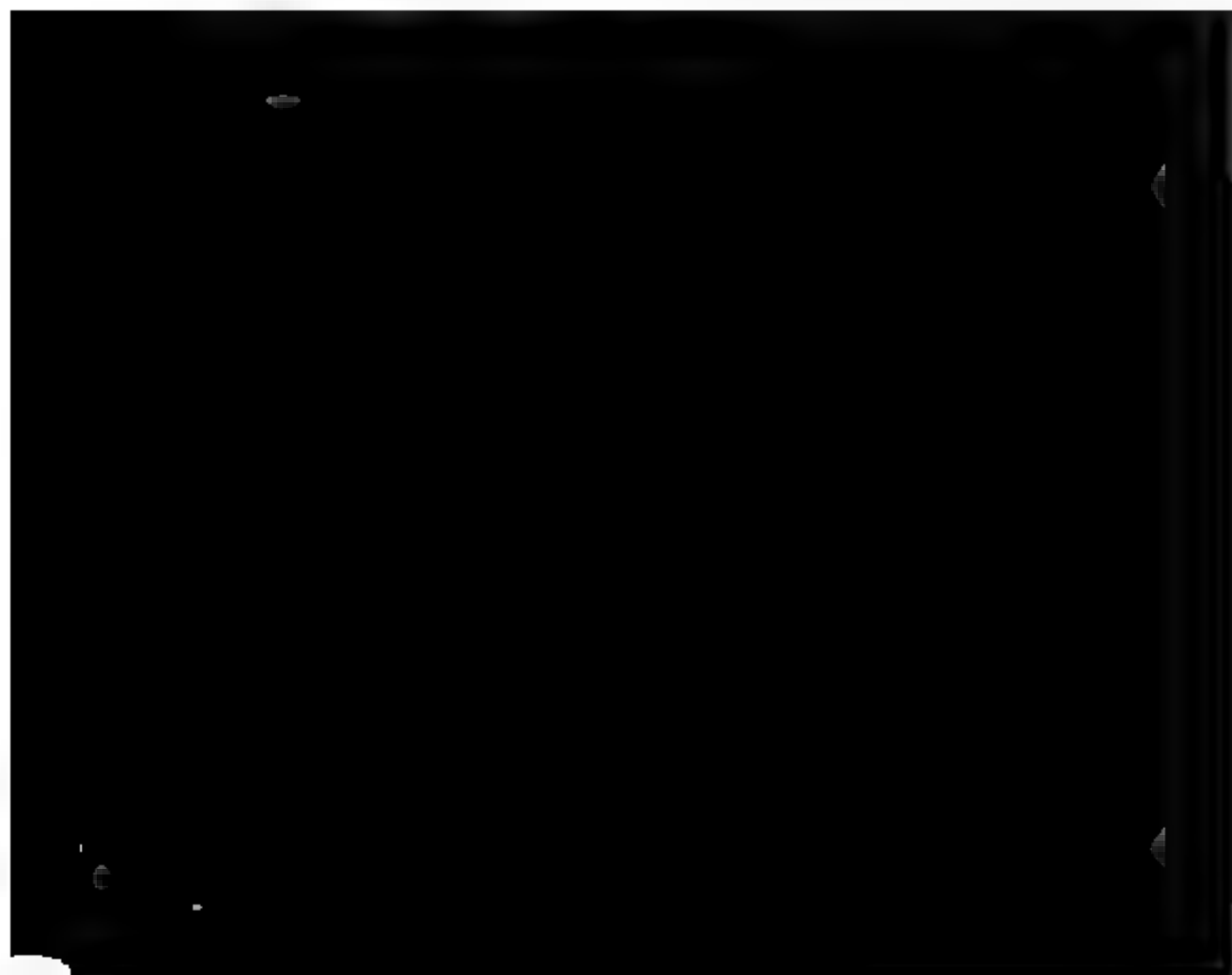
[2385]

LICHEN *Sepincola*.*Fence Lichen.**CRYPTOGAMIA Alga.***GEN. CHAR.** Male, scattered warts.

Female, smooth shields or tubercles, in which the seeds are imbedded.

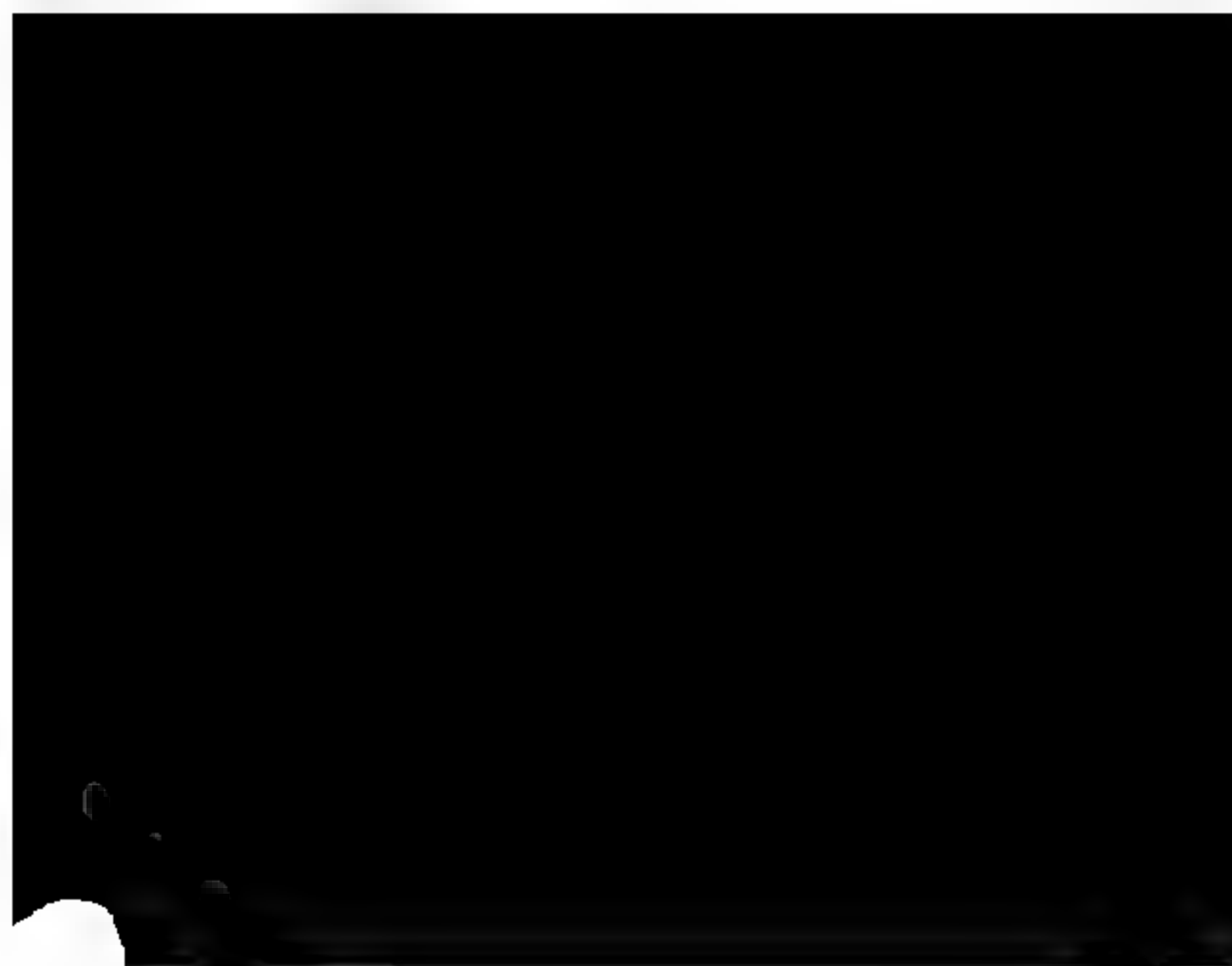
SPEC. CHAR. Membranaceous, smooth, glaucous-brown; paler and somewhat pitted beneath; segments flattish, ascending, sinuated, crenate, powdery at the edge. Shields nearly marginal, elevated, flattish, chestnut-coloured, with a thin notched border.**SYN.** *Lichen Sepincola*. *Ehrh. Phytoph.* 90. *Ach. Prodr.* 169. *Hedw. Crypt.* v. 2. 8. 1. 2. *Dicks. Crypt. fasc.* 3. 18. *With.* v. 4. 73. *Hull.* 300.*Platism. Sepincola*. *Hoffm. Pl. Lich.* v. 1. 71. t. 14. f. 1.*Cetraria Sepincola*. *Ach. Meth.* 297.

MR. DICKSON mentions this as growing on stones upon the Scottish mountains. We have seen no authentic British specimens, except a few, without fructification, shown us by





Alga maritima





[2373]

LICHEN fallax.

*Fallacious Leafy Lichen.**CRYPTOGAMIA Age.***GEN. CHAR.** Male, scattered warts.

Female, smooth shields or tubercles, in which seeds are imbedded.

SPEC. CHAR. Membranaceous, smooth, glaucous white on both sides, polished, lobed and finely jagged. Shields terminal, slightly bordered, brown; at length dilated and convex.**SYN.** Lichen fallax. *Web. Goett.* 244. *Ach. Prodr.* 169. *Dicks. Crypt. fasc.* 1. 13. *With.* v. 4. 53. *Hull.* 296.**L.** alpinus membranaceus elegans, &c. *Mich. Gen.* 75. t. 37.**Lichenoides** membranaceum, tubæ fallopianæ æmulum. *Dill. Musc.* 165. t. 22. f. 58.**Platisma** fallax. *Hoffm. Pl. Lich.* v. 2. 71. t. 46.**Cetraria** fallax. *Ach. Meth.* 296.

2373.



For the use of the Smithsonian Institution.

1. The first part of the document is a list of names and dates.

2. The second part of the document is a list of names and dates.

[1330]

LICHEN islandicus,

Iceland Lichen.

CRYPTOGAMIA Algæ.

GEN. CHAR. Male, scattered warts. Female, smooth shields or tubercles, in which the seeds are imbedded.

SPEC. CHAR. Leafy, membranous, ascending, laciniated, channelled and fringed, greenish chestnut-coloured. Shields sessile, flat, of the same colour.


SYN. Lichen islandicus. *Linn. Sp. Pl.* 1611. *Achar. Prod.* 170. *Huds.* 539. *With.* v. 4. 54. *Hull.* 296. *Lightf.* 829. *Woodv. Med. Bot.* t. 205. *Jacq. Coll.* v. 4. 253. t. 8. f. 1.

Lichenoides rigidum, eryngii folia referens. Raii Syn. 77. *Dill. Musc.* 209. t. 28. f. 111.

L. islandicum. Hoffm. Pl. Lich. t. 9. f. 1.

Cetraria islandica. Achar. Meth. 293.

A NATIVE of mountainous heaths and woods in the alpine parts of Britain. We have gathered it on the Pentland hills near Edinburgh, Ben Lomond, &c. and have received it from Durham, but have been obliged to draw the tractification from



2220

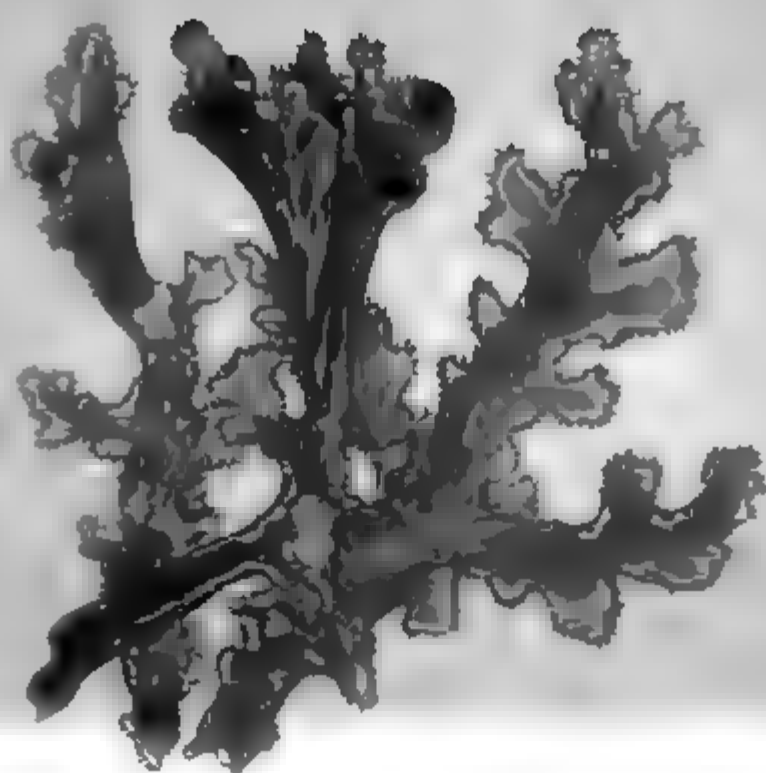


Fig. 2220. *Alveolaria* sp. (see description of specimen)





[1994]

LICHEN nivalis.

*Snow Lichen.**CRYPTOGAMIA Algæ.***GEN. CHAR.** Male, scattered warts.

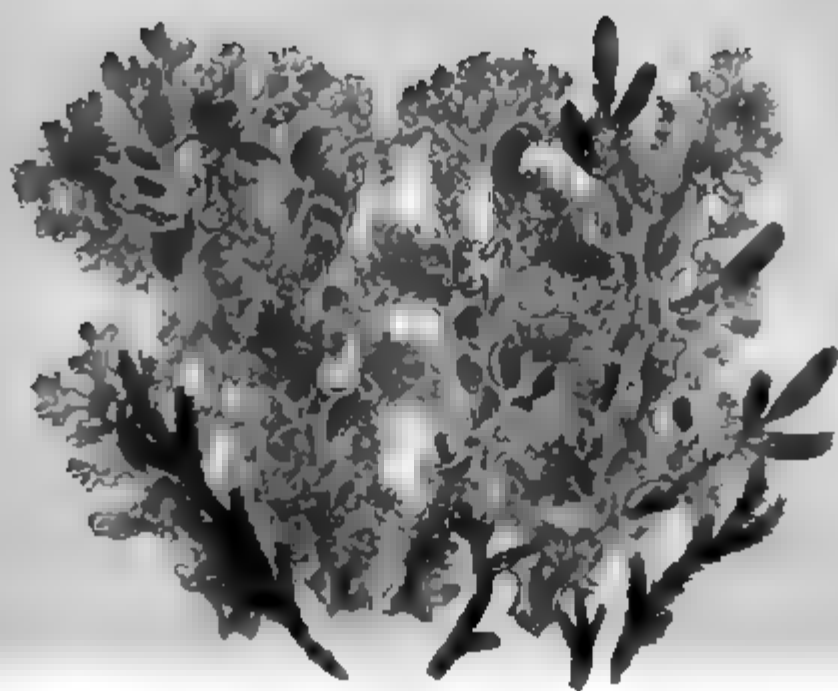
Female, smooth shields or tubercles, in which the seeds are imbedded.

SPEC. CHAR. Leafy, membranous, ascending, laciniated, pitted, of a sulphureous white, yellow at the base; its segments flattish, repeatedly divided, divaricated, notched, warty. Shields in front towards the margin, flesh-coloured, with a crenate border.**SYN.** *Lichen nivalis.* Linn. *Sp. Pl.* 1612. *Fl. Lapp.* ed. 2. 355. t. 11. f. 1. *Ach. Prod.* 171. *Dicks. Crypt. fusc.* 3. 17. *With.* v. 4. 60. *Hull.* 298. *Villars Dauph.* v. 3. 955. var. 1. t. 55. *Fl. Dan.* t. 227.*Lichenoides lacunosum candidum glabrum, endiviæ crispæ facie.* Dill. *Musc.* 162. t. 21. f. 56 A.*Cetraria nivalis.* *Ach. Meth.* 294.

THE specimen in our plate was brought from the Highlands of Scotland by Mr. Turner and Mr. Hooker in 1807, but our first knowledge of this Lichen as a native of that country was derived from Dr. R. Townson in 1790, as mentioned in the

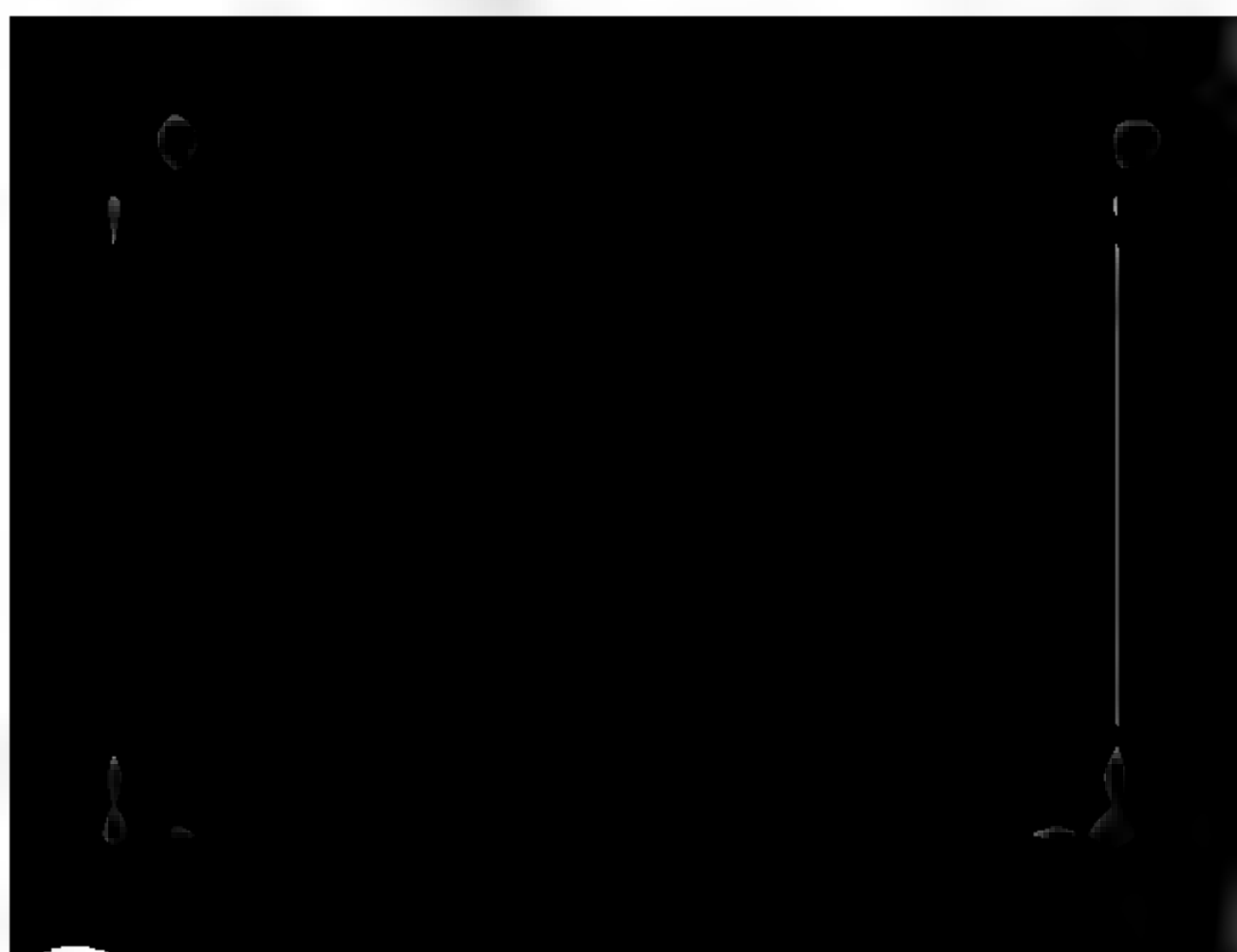


1294



Mar. 1900. Polypodium (m. 1900)

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[1351]

LICHEN tenellus.
Little Ciliated Lichen.

CRYPTOGAMIA *Algæ.*

GEN. CHAR. Male, scattered warts.

Female, smooth shields or tubercles, in which the seeds are imbedded.

SPEC. CHAR. Leafy, membranous, procumbent, smooth, greyish : segments linear ; their extremities ascending, dilated, obtuse, vaulted, fringed. Shields sessile, blueish-black.

SYN. Lichen tenellus. *Weber.* 235. *Achar. Prod.* 172. *With.* v. 4. 56. *Hull.* 297. *Relh.* 466. *Sibth.* 329. *Abbot.* 266. *Ehrh. Crypt.* 217.

L. ciliaris β . *Huds.* 538.

Lichenoides hispidum minus et tenerius, scutellis nigris. *Dill. Musc.* 152. t. 20. f. 46.

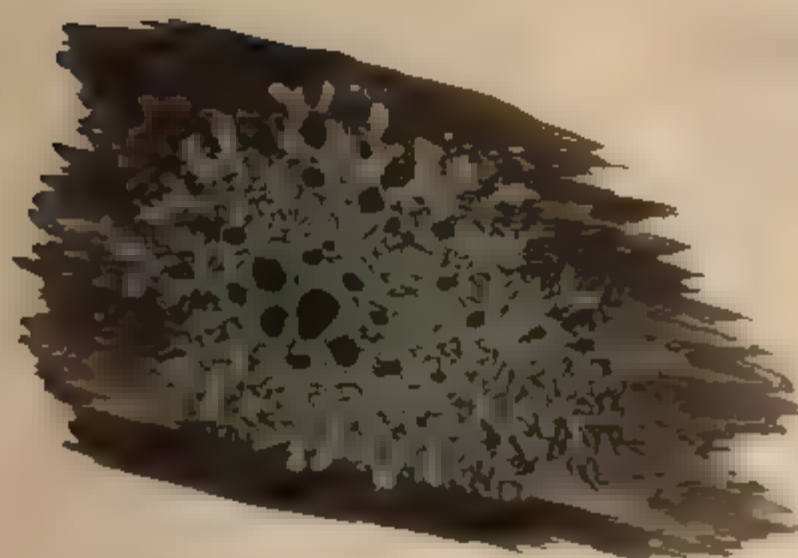
L. saxatile et arboreum tenerius, foliis pilosis, scutellis in aversa foliorum superficie apparentibus. *Dill. in Raii Syn.* 74.

L. hispidum. *Hoffm. Pl. Lich.* t. 3. f. 2, 3.

Parmelia tenella. *Achar. Meth.* 250.

COMMON on the bark of trees, or rather on the branches of shrubs, as well as on pales and stones. The sloe and other bushes in our hedges generally abound with this species at all seasons of the year.

The fronds are depressed, much branched, and somewhat imbricated, of a brilliant greyish white, forming creeping patches scarcely an inch broad ; their segments linear, zigzag, rather convex ; dilated, obtuse, and vaulted, or somewhat inflated, at their extremities, often powdery, and fringed at that part with long, blackish or white, undulating bristles. The shields are sessile on the upper surface of the frond, of a bluish or greyish black, flat ; their border of the substance and colour of the leaf, inflexed, externally very smooth, internally crenate.



[1352]

LICHEN ciliaris.
Great Ciliated Lichen.

CRYPTOGAMIA Algae.

GEN. CHAR. Male, scattered warts.

Female, smooth shields or tubercles, in which the seeds are imbedded.

SPEC. CHAR. Leafy, membranous, ascending, minutely pubescent, of a greenish glaucous grey: segments linear, incised, fringed. Shields elevated, brownish black.

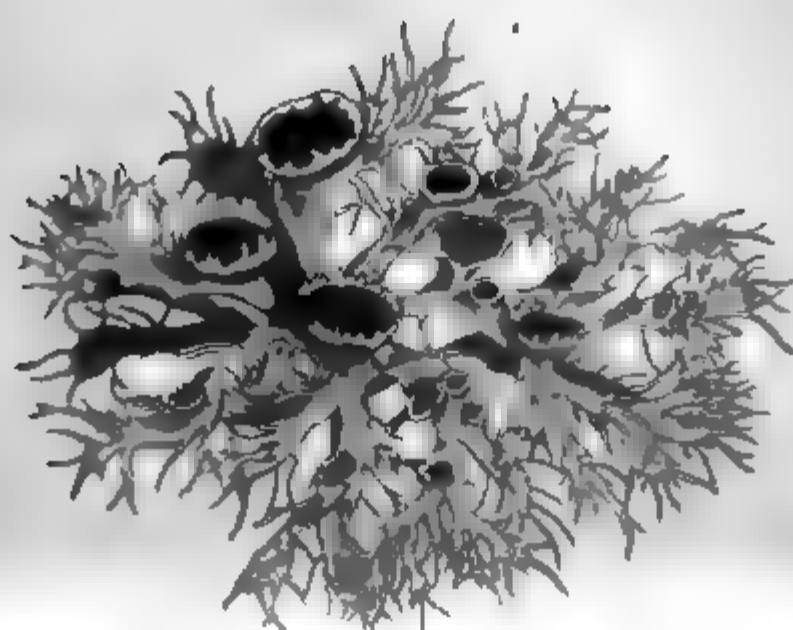
SYN. *Lichen ciliaris*. *Linn. Sp. Pl.* 1611. *Achar. Prod.* 173. *Huds.* 533. *With.* v. 4. 55. *Hull.* 297. *Rat.* 466. *Sed.* 325. *Allet.* 965. *Dicks. H. Sicc. fasc.* 7. 24. *Ehrh. Crypt.* 227.

Lich. nodosus hispidum majus et rigidius, scutellis nigris.
DeL. Musc. 153. t. 20. f. 45.

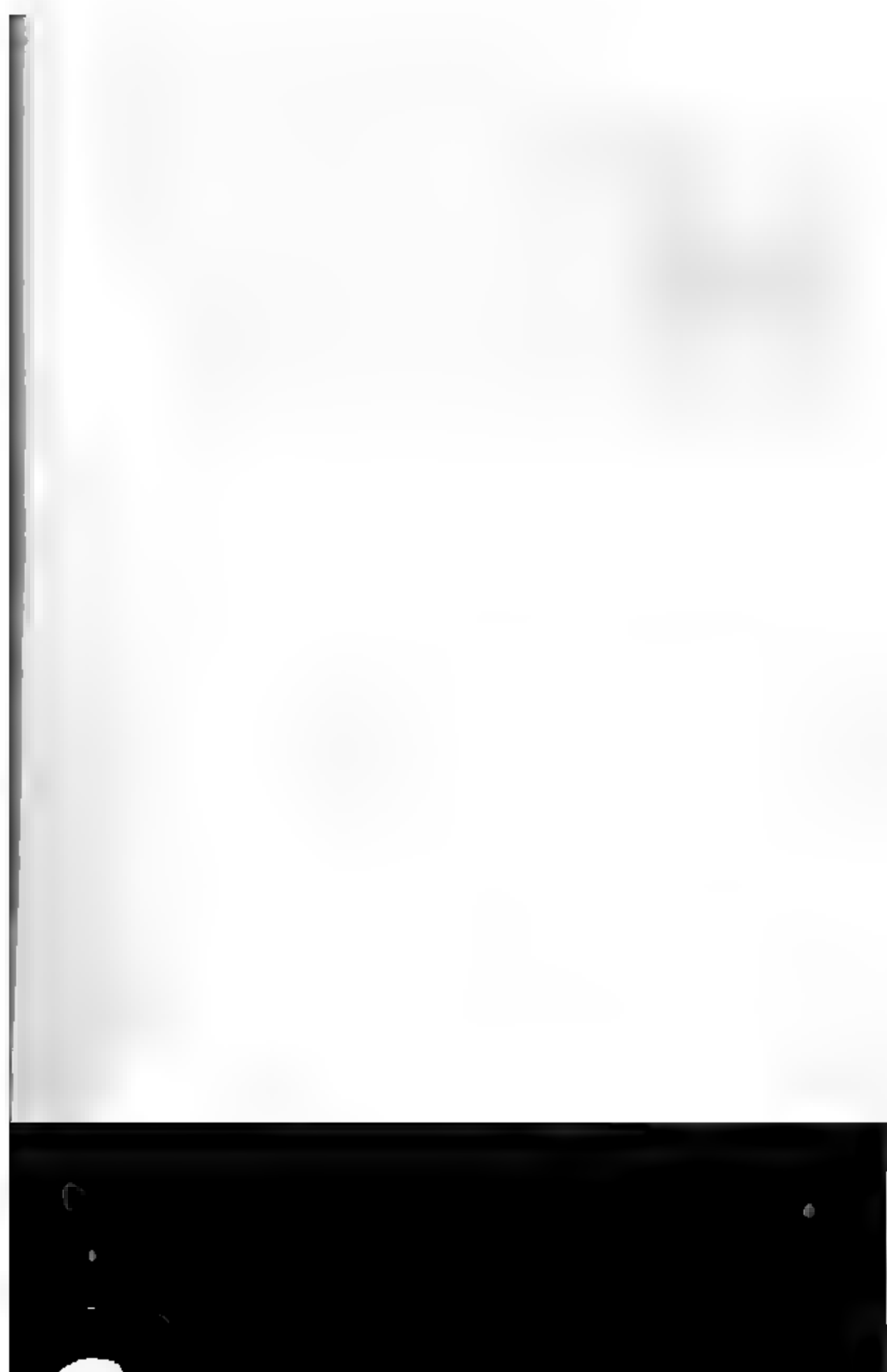
L. arborescens foliosum cinereum, scutellis nigris, foliorum extremitatibus hispidis et pilosis. *Raii Syn.* 73.

L. ciliare. *Hym. Pl. Lich.* t. 3. f. 4.

Parmelia ciliaris. *Achar. Meth.* 255.



Asplenium adnigrum (L.) Oakes



LICHEN leucomelos.

Black-haired Lichen.

CRYPTOGAMIA Algæ.

GEN. CHAR. Male, scattered warts.

Female, smooth shields or tubercles, in which the seeds are imbedded.

SPEC. CHAR. Leafy, membranous, spreading, smooth, white on both sides; channelled and powdery beneath: segments linear, fringed with long, black, very slender hairs. Shields stalked, blueish-black, with a white radiating border.

SYN. Lichen leucomelos. *Linn. Sp. Pl.* 1613. *Ach. Prodr.* 181. *Swartz. Obs.* 407. *t.* 11. *f.* 3.*Lichenoides angustifolium planum, crinibus nigris. Dill. Musc.* 156. *t.* 21. *f.* 50.*Parmelia leucomela. Ach. Meth.* 256.

DISCOVERED by Mr. W. J. Hooker at Babbicombe in Devonshire last February. This species had never before been met with in Britain, but is a native of the West Indies, and of St. Helena. The fronds grow in dense lax tufts, spreading amongst thyme, &c. in heathy places, and are known by their generally very pure white colour and great smoothness above, contrasted with their remarkably long, slender, coal-black, simple or branched, marginal hairs. Sometimes there is a grey or smoky tinge. The breadth of the segments varies much. The under side is channelled and mealy, always snow-white. The elegant shields were not found by Mr. Hooker. We have them on specimens gathered by Mr. Menzies in St. Helena. They are lateral, scattered, on short stalks; the disk flat, greyish, surrounded with a white, leafy, radiating margin, sometimes bearing black hairs like those of the frond.

2346



Agave americana L.





[1715]

LICHEN atlanticus.

Downy Shrubby Lichen.

CRYPTOGAMIA Algae.

GEN. CHAR. Male, scattered warts.

Female, smooth shields or tubercles, in which the seeds are imbedded.

SPEC. CHAR. Leafy, branched, tufted and entangled, grey, downy, linear, channelled underneath; branches rigid, divaricated. Shields lateral, flattish, black, with a smooth, entire, grey border.

SYN. Lichen intricatus. Desfont. Atlant. 420. t. 258. f. 3.

Lichenoides subhirsutum teres, scutellis parvis nigris.

Dill. Musc. 157. t. 21. f. 51. Herb. Dill.

Parmelia atlantica. Ach. Meth. Suppl. 50.

FIRST found in Britain by Mr. W. Borrer, on elms at Bracklesham in Selsey island, in April 1804, and by the same gentleman on cliffs near Hastings, bearing shields in August 1805. We should gladly have called it *L. Borreri* after its discoverer, who is so peculiarly conversant with Lichens, the name *intricatus* being preoccupied, and that which alludes to its growing on mount Atlas being contrary to the soundest rules of nomenclature. The synonym of Dillenius, which no one has suspected, we have ascertained by a specimen compared at Oxford. Indeed his figure and description are instantly recognised.

The fronds form dense entangled tufts on the branches of trees or on rocks, and are of a grey or whitish colour, clothed with fine short down. Their subdivisions are numerous, divaricated, linear, channelled beneath. Shields lateral, sessile, small, round, with a black disk, at length becoming convex, and an entire downy border, of the colour and substance of the frond.

It belongs to the same natural tribe as *L. prunastri*, *sarinus*, *juviformis*, &c. Micheli is its original discoverer, who sent it to Sherard, and whose indifferent figure (*Gen. Pl. t. 38. f. 3.*) Dillenius, as usual, takes delight in criticising.

1715



Illustration of the coral specimen



[728]

L I C H E N fuciformis.

*Flat-leaved Orchal.**CRYPTOGAMIA Alga.***GEN. CHAR.** Male, scattered warts.

Female, smooth shields or tubercles, in which the seeds are imbedded.

SPEC. CHAR. Leafy, divided, pointed, flat, nearly upright, tapering at each end, greyish white, obscurely downy, set with white mealy warts. Shields convex, blackish.**SYN.** Lichen fuciformis. *Lin. Sp. Pl.* 1614. *Dicks.**Crypt. f. 3. 17. Wub. t. 4. 51. Hull. 295.**Lichenoides fuciforme tinctorium, corniculis longioribus et scutionibus. Dill. Musc. 168. t. 22, 23. f. 61.*

GATHERED on coarse granite rocks at Tintagel, near King Arthur's castle on the Cornish coast, by Mr. Sowerby and Mr. D. Turner, who were informed that this species is collected for the dyers' use indiscriminately with *L. Roccella*, and that if the latter is not used, the former is most used.



1. 2. 3. 4. 5. 6. 7. 8. 9. 10. 11. 12. 13. 14. 15. 16. 17. 18. 19. 20. 21. 22. 23. 24. 25. 26. 27. 28. 29. 30. 31. 32. 33. 34. 35. 36. 37. 38. 39. 40. 41. 42. 43. 44. 45. 46. 47. 48. 49. 50. 51. 52. 53. 54. 55. 56. 57. 58. 59. 60. 61. 62. 63. 64. 65. 66. 67. 68. 69. 70. 71. 72. 73. 74. 75. 76. 77. 78. 79. 80. 81. 82. 83. 84. 85. 86. 87. 88. 89. 90. 91. 92. 93. 94. 95. 96. 97. 98. 99. 100.





LICHEN furfuraceus.

Branny Lichen.

CRYPTOGAMIA *Algæ.*

GEN. CHAR. Male, scattered warts.

Female, smooth shields or tubercles, in which the seeds are imbedded.

SPEC. CHAR. Leafy, leathery, decumbent, laciniated and forked; convex, greenish-grey and powdery above; concave, rugged and black beneath. Shields scattered, inflated, reddish-brown, with a thin inflexed edge.

SYN. Lichen furfuraceus. *Linn. Sp. Pl.* 1612. *Huds.* 539. *With.* v. 4. 56. *Hull.* 297. *Lgbif.* 832. *Achar. Prod.* 173.

Lichenoides cornutum amarum, supernè c. increum infernè nigrum. *Dill. Musc.* 157. t. 21. f. 52.

LICHEN furfuraceus is to be found in the most mountainous counties only, and there not frequently. It grows on the trunks of trees, old pales, &c., but seems to prefer rocks of granite or sandy grit, as in the specimens now before us sent by the Rev. Mr. Harriman. The fructification is extremely rare, and several authors confess they have never seen it.

The fronds grow loosely spreading or decumbent in large roundish tufts, and are much branched and repeatedly forked, various in breadth, ending in sharp reddish points. The upper surface is convex, greenish-grey, all over powdery; the under concave, rugged or plated, not powdery, black, having in many parts a blue or purplish tinge. Shields attached to the upper surface, elevated, concave or inflated, with a thin inflexed edge; their disk is brown; their outside grey and mealy like the fronds.

Professor Hoffmann in his *Plantæ Lichenosæ* t. 9. f. 2. gives an excellent representation of the plant in a dry state.

5. 4.



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L I C H E N *prunastri*,
Ragged hoary Lichen.

CRYPTOGAMIA *Alga.*

GEN. CHAR. Male, scattered warts.

Female, smooth shields or tubercles, in which the seeds are imbedded.

SPEC. CHAR. Leafy, much-branched, upright, leathery, soft, greenish-white, pitted and rugged; very white beneath; the segments linear, flat, acute. Shields lateral, concave, bright-brown.

SYN. *Lichen prunastri.* *Linn. Sp. Pl.* 1614. *Achar. Prodr.* 174. *Hudf.* 541. *Witb. v.* 4. 52. *Hull.* 296.

L. corniculatus. *Relb.* 433.

Lichenoides cornutum bronchiale molle, subtus incanum. *Dill. Musc.* 160. t. 21. f. 55 A.

FEW botanists have well understood the tribe of leafy or flat branched Lichens to which the present species belongs; indeed Dr. Acharius, in his *Prodr.* and in the Stockholm Transactions, is the first who has clearly illustrated their Proteus-like forms. We agree with him that this is the real *prunastri*, with



April 1 1891 Published by J. A. Sowerby London



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[1853]

LICHEN *stictoceros*.*Dotted-horned Lichen.*

*CRYPTOGAMIA Alga.***GEN. CHAR.** Male, scattered warts.

Female, smooth shields or tubercles, in which the seeds are imbedded.

SPEC. CHAR. Shrubby, spreading, much branched, compressed, wrinkled, pale sulphur-coloured; solid and spongy within. Tubercles terminal, solitary, minute, convex, black.

WE know no synonym or account of this Lichen, which was found by our worthy friend and patron James Brodie, Esq., growing on the ground upon broken sand-banks, in the warren opposite Exmouth, Devonshire, not above 300 yards from the ferry, early in the spring of 1803.

At first sight it might be taken for *L. prænastri*, but nothing can prove more distinct when the fructification, and indeed the true nature of the seeds are attended to. The latter grow

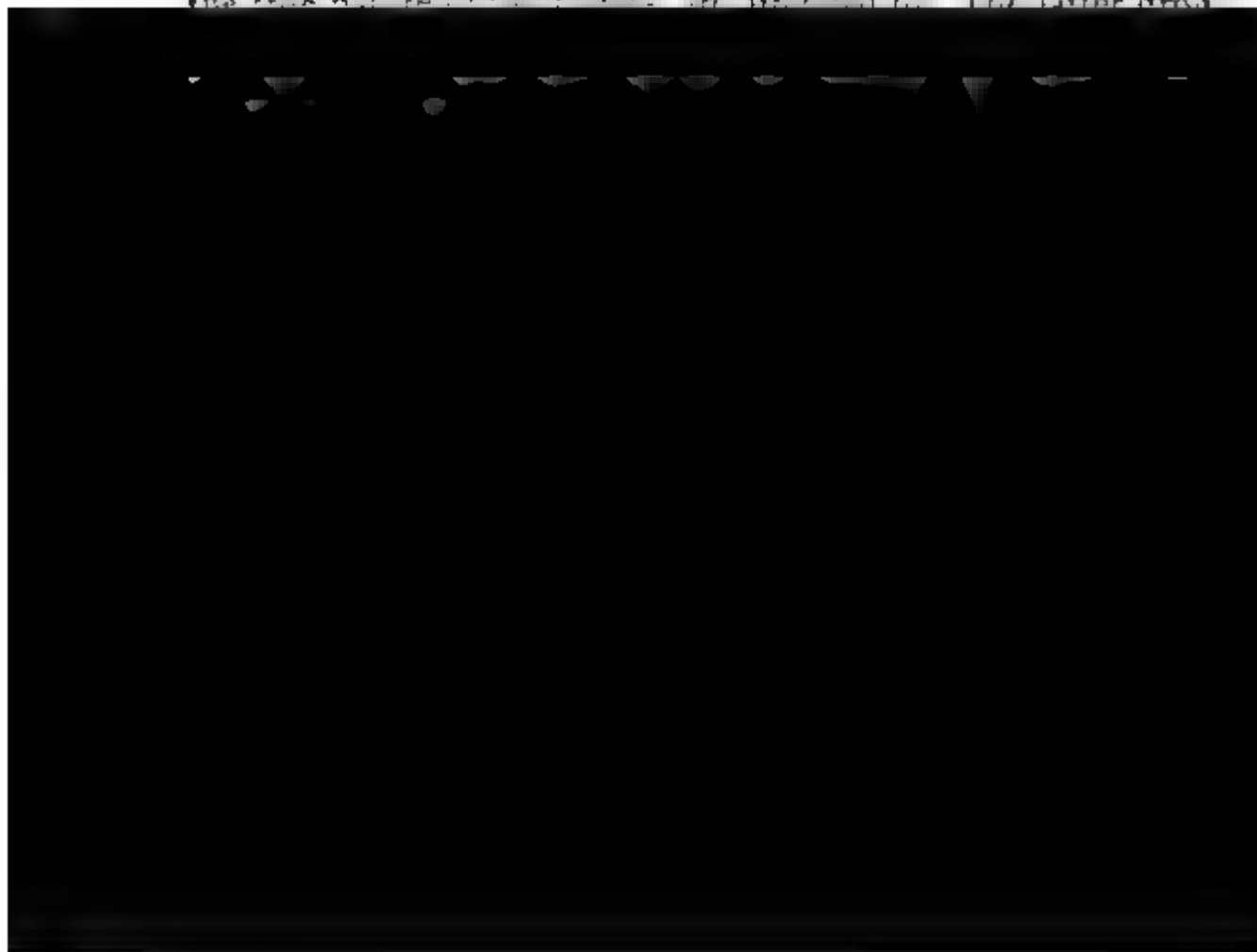
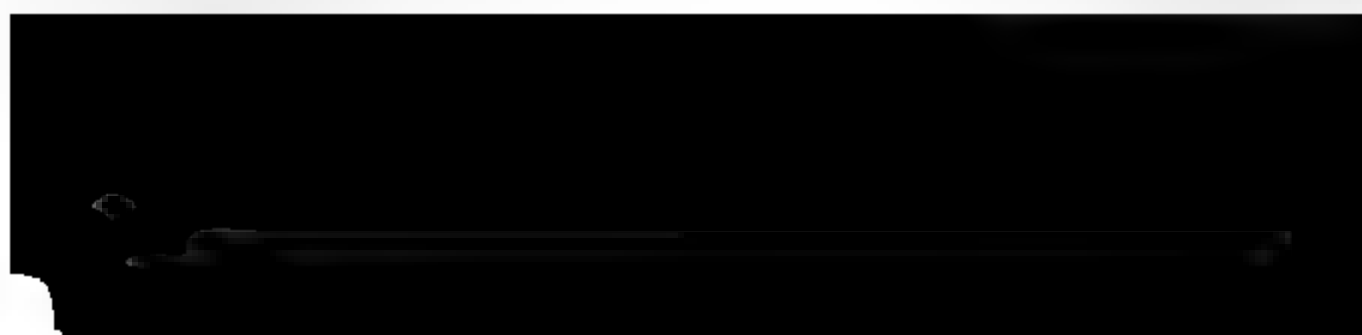




Fig. 1. 1. 1. 1. Published by the University of London.





[1781]

LICHEN fraxineus.

*Leafy Ash Lichen.*CRYPTOGAMIA *Alga.*

GEN. CHAR. Male, scattered warts.

Female, smooth shields or tubercles, in which the seeds are imbedded.

SPEC. CHAR. Leafy, tufted, somewhat cartilaginous, pitted, smooth, greyish white; its segments linear-lanceolate, acute, jagged. Shields pale, scattered, stalked.

SYN. Lichen fraxineus. *Linn. Sp. Pl.* 1614. *Ach. Prod.* 175. *Huds.* 541. *Wilh. v.* 4. 56. *Hull.* 297. *Reh.* 457. *Silb.* 330. *Attol.* 266.*Licheroides longifolium rugosum rigidum.* *Dill. Musc.* 165. *t.* 22. *f.* 59.*L. arboreum ramosum scutellatum majus et rigidius, colore virescente.* *Raii Syn.* 75.*Parmelia fraxinea.* *Ach. Meth.* 258.*Platism fraxineum.* *Hoffm. Pl. Lich. v.* 1. 85. *t.* 18. *f.* 1, 2.

1781



Illustr. Published by J. S. P. Smith, London



LICHEN fastigiatus.
Ragged Beaked Lichen.

CRYPTOGAMIA *Alga.*

GEN. CHAR. Male, scattered warts.

Female, smooth shields or tubercles, in which the seeds are imbedded.

SPEC. CHAR. Leafy, much-branched, upright, leathery, glaucous-buff, smooth, pitted, without warts; the branches terminating in a curved beak. Shields numerous, scattered, nearly sessile, pale whitish buff.

Syn. *Lichen fastigiatus.* *Acher. Prod.* 175.

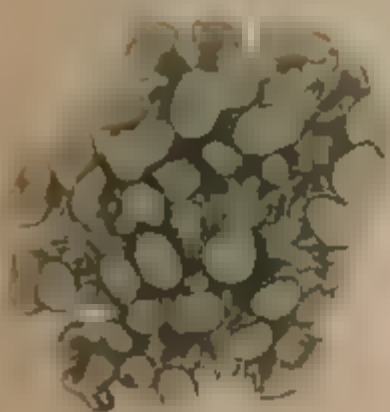
L. calicaris. *Huds.* 540. *Witb. v.* 4. 51. *Hull.* 296.

Lightf. 834. *Relb.* 431. *Abbot.* 264.

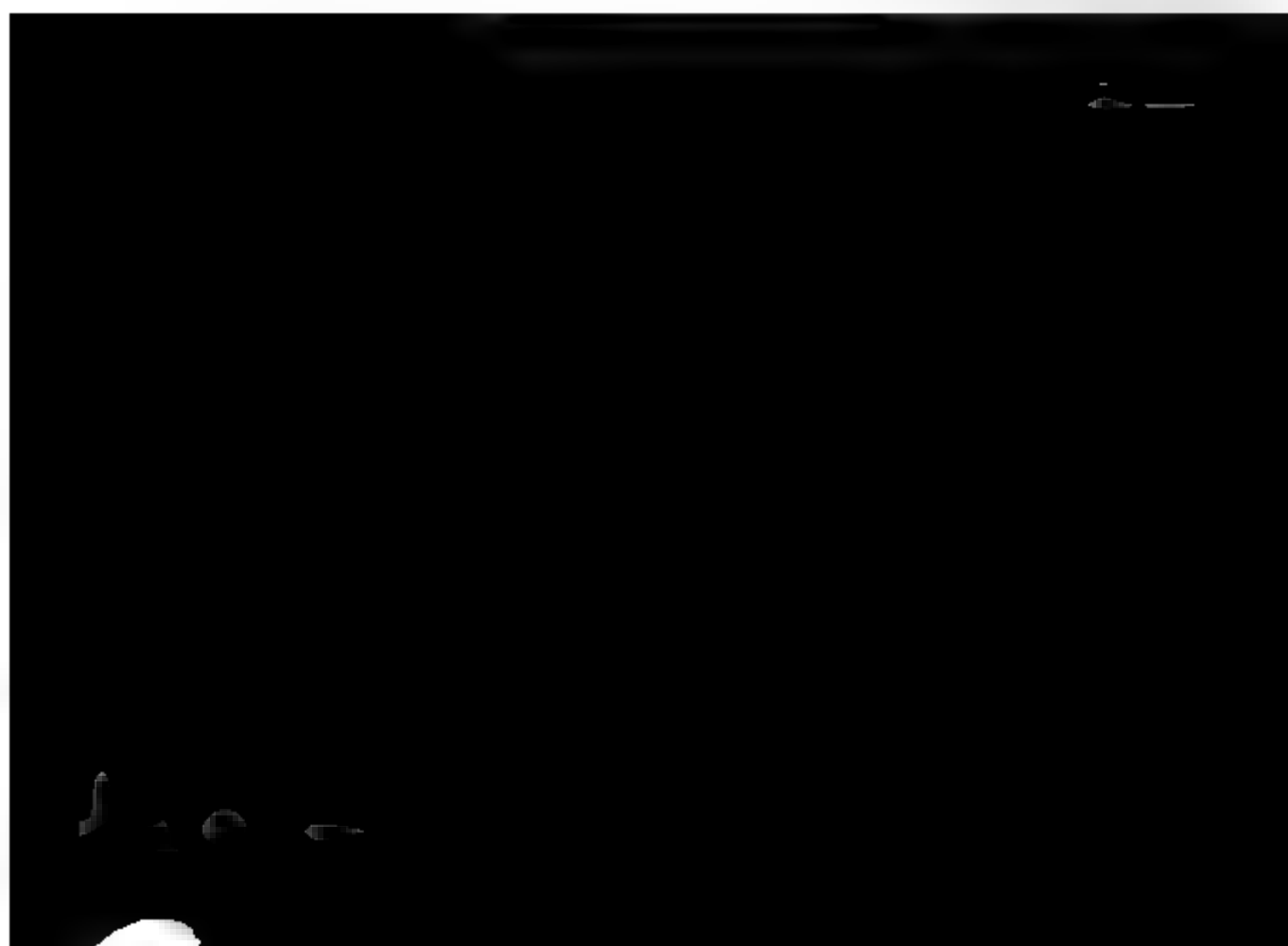
Lichenoides coralliforme, rostratum et canaliculatum.

Dill. Musc. 170. *t.* 23. *f.* 62.

THIS, though by far less common than the preceding, is found on trees, chiefly in the most woody and rather mountainous parts of our island. Its near affinity to *L. farinaceus* has already been mentioned, but we shall proceed to show their differences. *L. fastigiatus* is equally tufted and branched,



PLANTAE - 116



LICHEN scopulorum.

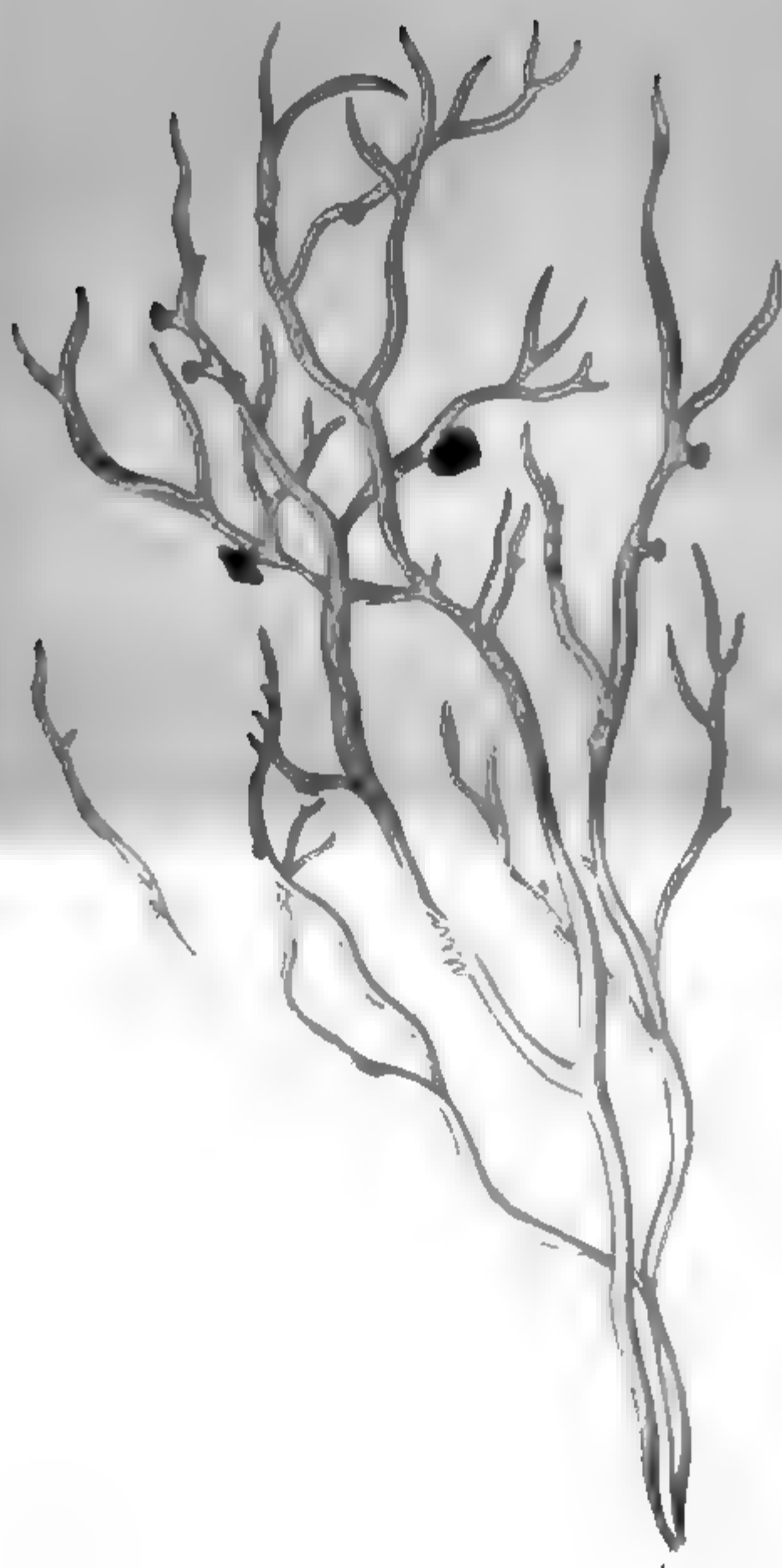
*Ivory Rock Lichen.**CRYPTOGAMIA Algæ.*

GEN. CHAR. Male, scattered warts. Female, smooth shields or tubercles, in which the seeds are imbedded.

SPEC. CHAR. Leafy, pendent, branched, divaricated, linear-compressed, polished, greenish-white. Shields lateral, marginal, brownish, rather convex, on short stalks.

SYN. Lichen scopulorum. *Retz. Prod. ed. 2. 282. Dict. Suppl. 3. 18. H. Dem. 1. 959. f. 2. With. v. 4. 37. Hall. 297.*

MR. DICKSON mentions this Lichen as growing on rocks and large stones in Scotland and England. It is, however, much a maritime species. Our specimens were gathered on the granite rocks of Lemorna Cove, near the Land's End, by





LICHEN farinaceus.

*Ragged Mealy Lichen.*CRYPTOGAMIA *Alga.*

GEN. CHAR. Male, scattered warts.

Female, smooth shields or tubercles, in which the seeds are imbedded.

SPEC. CHAR. Leafy, much-branched, upright, leathery, glaucous-ashcoloured, smooth, pitted; the branches tapering, fludded with lateral, convex, pale, mealy warts. Shields scattered, stalked, flat, pale-buff.

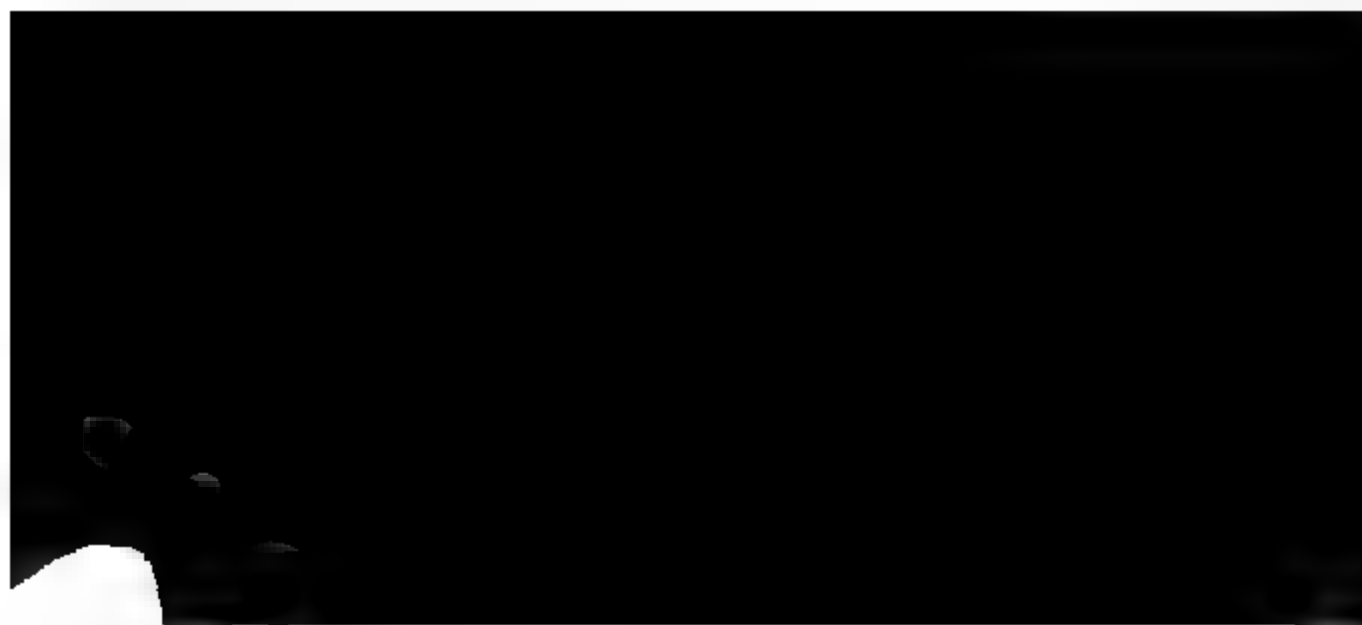
SYN. Lichen farinaceus. *Linn. Sp. Pl.* 1613. *Achar. Prod.* 177. *Huds.* 540. *Wub.* v. 4. 50. *Hull.* 295. *Lghtf.* 833. *Sibth.* 329. *Abbot.* 265. *Dicks. H. Sicc. fasc.* 17. 23. *Relb.* 432. *sub n.* 872.*Lichenoides segmentis argutioribus, ad margines verrucosis et pulverulentis. Dill. Musc.* 172. *t.* 23. *f.* 63.

A VERY common *Lichen* on the branches of most kinds of trees, but the shields are so rarely found, that Dr. Acharius supposes himself the first who has described or even observed them. The former claim cannot be disputed; but, with respect to the latter, we have fine specimens in full fructification gathered in Norfolk at least 20 years ago by the Rev. H. Bryant. That in our plate was found in 1799 by the Rev. C. Abbot in Clapham Park Wood, Bedfordshire. Mr. Bryant conceived his discovery only confirmed the supposition of Dillenius, Scopoli and others, that this *Lichen* was the other sex of *L. caluarius* of Hudson (*fastigiatus* of Acharius), and that he had merely met by accident with both sexes on one plant. We nevertheless are rather of the opinion of Dr. Acharius, who keeps them separate, and we shall endeavour in this and the following plate to distinguish them.

L. farinaceus forms spreading much-branched tufts; its segments vary in breadth, but are generally very narrow, acute, flattish, pitted, of a pale glaucous gray, smooth, except for the numerous irregular powdery cracks or warts on their edges or sides, which constitute the essential distinction of this species, and which in drying become almost white. The shields are flat, of a very pale buff, surrounded when young with an entire border of the colour of the leaf.



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LICHEN pollinarius.
Mealy-cracked Leafy Lichen.

CRYPTOGAMIA *Algae.*

GEN. CHAR. Male, scattered warts.

Female, smooth shields or tubercles, in which the seeds are imbedded.

SPEC. CHAR. Leafy, leathery, spreading, smooth, pitted, greenish grey, sprinkled with powdery cracks: the lobes jagged, in linear segments. Shields nearly terminal, slightly elevated, buff-coloured, with a greenish, inflexed, smooth border.

SYN. *Lichen pollinarius.* *Ach. Prod.* 178. *Act. Holm.* ann. 1797. 263. t. 11. f. 2.

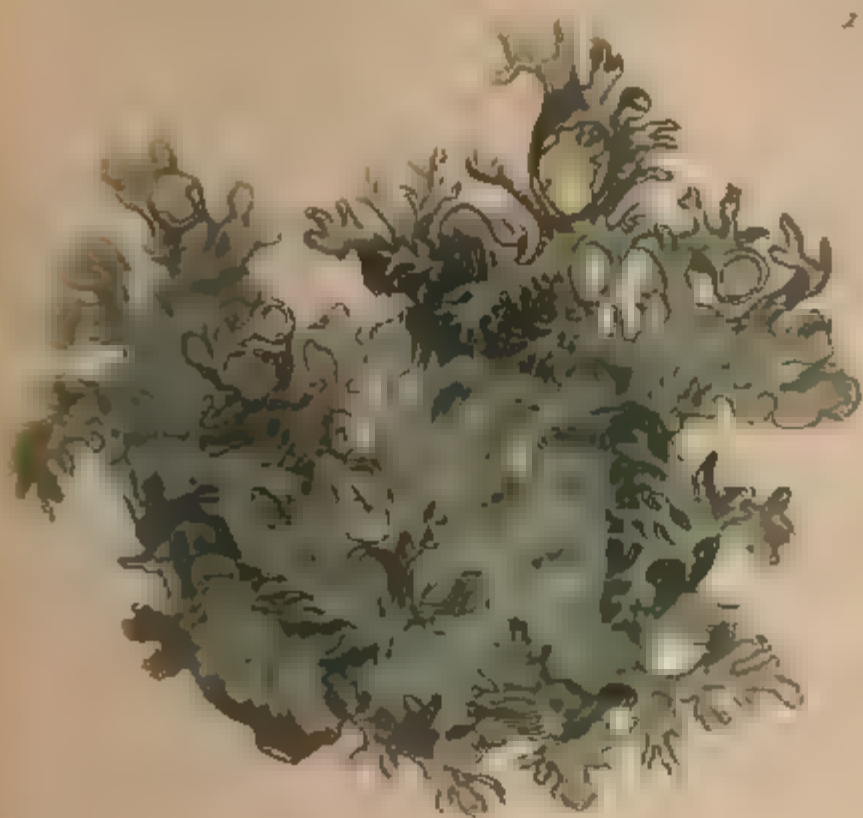
Parmelia pollinaria. *Ach. Meth.* 264.

Lichenoides lacunosum lacerum, latius et angustius. *Dill. Musc.* 163. t. 21. f. 57.

FOR the fine specimens of this Lichen here represented we are obliged to Charles Lvell, Esq., who gathered them on an old oak in Testwood Park, New Forest, Hants. They precisely accord with every part of Dillenius's description, though that author never saw the shields. They also agree with specimens from Acharius, though he has chiefly gathered and described the more common state of the plant, as it grows on old barn doors, and seems not to have recognised the synonym of Dillenius.

The fronds grow in a tufted and spreading manner, varying greatly in size and in breadth. The white mealy cracks which appear on them when old or dry are characteristic. Their proper greenish grey hue turns to a yellowish buff with age, as Dillenius also observes. The shields stand very near, or upon, the margin, and are slightly elevated on a thick wrinkled stalk, which runs into a broad, inflexed, smooth border of the same colour and texture as the frond. The disk is flattish, mostly cracked by age, pale buff. Acharius mentions this Lichen as very good for dyeing wool or silk pale red or dark brown.

2507



From the collection of the Rev. J. J. Smith, London



[1088]

LICHEN chrysoththalmus.

Golden-eyed Lichen.

CRYPTOGAMIA Alga.

GEN. CHAR. Male, scattered warts. Female, smooth shields or tubercles, in which the seeds are imbedded.

SPEC. CHAR. Leafy, branched, upright, yellowish grey, linear, toothed and fringed. Shields orange coloured, radiated.

SYN. Lichen chrysoththalmus. *Linn. Mant.* 311
Achar. Prod. 181. *Dickf. Dr. Pl.* 21.

*L. pulmonarius, minimus, subluteus, receptaculi
florum coronatis, mali aurantii coloris. Mich. Gen*
75. t. 36. f. 4. Dill. Musc. 74. t. 13. f. 17.

Platisma armatum. Hoffm. Pl. Lich. t. 36. f. 1.

A POOR fisherman from whom Mr. Sowerby has often received shells and other natural productions from the West of England, last year brought him specimens of this Lichen from the branches of apple-trees in Devonshire. No person has before observed it in Britain; but we make no scruple to admit it on this authority, as it may have been overlooked



1068



1868 Published by T. S. Sowerby, London

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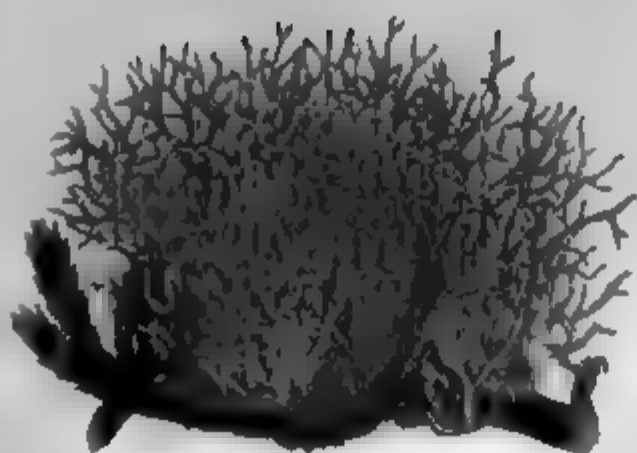
[2113]

LICHEN flavicans.*Brass-kire Lichen.***CRYPTOGAMIA Alge.****GEN. CHAR.** Male, scattered warts.

Female, smooth shields or tubercles, in which the seeds are imbedded.

SPEC. CHAR. Leafy, branched, tufted and entangled, ~~erect~~, warty, linear, compressed, angular, wavy; branches divaricated, taper-pointed. Shields lateral, ~~erect~~ sessile, flat, orange, with a narrow, entire, pale border.**SYN.** *Lichen flavicans*. Swartz. *Prod.* 147. *Ach. Fung.* 182.*L. villosus*. *Huds.* 559. *With.* v. 4. 49. *Hull.* 307.*Usnea capillacea citrina*, fructiculi specie. *Dill. Musc.* 73. t. 13. f. 16.*Musci arvens tenuissimus*. *Dill. in Raii Syn.* 65.*Parmelia flavicans*. *Ach. Meth.* 268.**COMMUNICATED** by Mr. W. Borrer from Sussex. It grows on trees and shrubs, more commonly in Devonshire than in any other county. For the shields we are obliged to

2128 101



11 14/10/1910



LICHEN sarmentosus.
Trailing Filamentous Lichen.

CRYPTOGAMIA *Algæ.*

GEN. CHAR. Male, scattered warts.

Female, smooth shields or tubercles, in which the seeds are imbedded.

SPEC. CHAR. Filamentous, hollow, pitted, whitish, repeatedly branched, somewhat forked and divaricated; ultimate branches capillary. Shields scattered, lateral, sessile, concave, greenish flesh-colour, with a pale entire border.

SYN. Lichen sarmentosus. *Ach. Prod.* 180.

L. longissimus, ex cinereo candicans, rugosus et mollior, receptaculis florum rufescentibus. *Mich. Gen.* 77. t. 39. f. 2.

Usnea loris longis dichotomis, extremitatibus tenuioribus. *Dill. Musc.* 59. t. 11. f. 2; copied from Micheli.

U. dichotoma. *Hoffm. Pl. Lich.* t. 72.

Parmelia sarmentosa. *Ach. Meth.* 271.

FOUND, for the first time in Britain, by Messrs. Hooker and Barrer in 1808, on the Scottish mountains of Ben Luyhal, Sutherland, and Cairn-gorm, Inverness-shire.

It grows sometimes on old trunks of trees, more rarely on rocks, and is a very distinct species from all the filamentous Lichens we have hitherto described. The fronds are of an ivory white, creeping, much branched and divaricated, irregularly pitted, and sometimes powdery, on the surface, hollow, without any central thread; their ultimate branches very fine and numerous. Shields, which we have received from Dr. Acharius only, small, lateral, sessile, with a hollow, greenish, somewhat flesh-coloured, disk, and a smooth elevated border, of the substance of the frond.

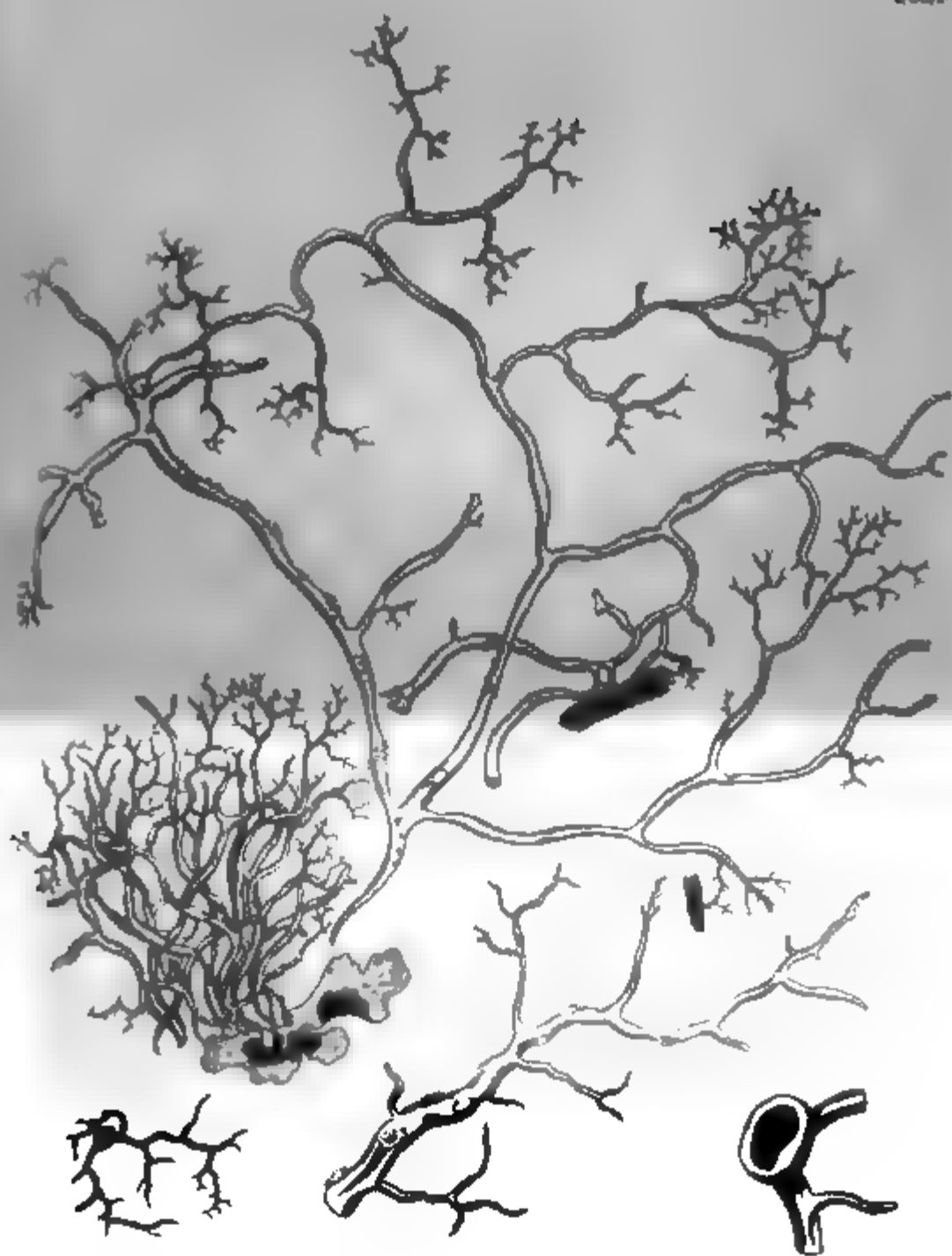


Fig. 111. - *Alcedo* by J. A. Kewerby London

[2374]

LICHEN ochroleucus.

Shrubby Sulphureous Lichen.

CRYPTOGAMIA Alga.

GEN. CHAR. Male, scattered warts.

Female, smooth shields or tubercles, in which the seeds are imbedded.

SPEC. CHAR. Cartilaginous, bushy, repeatedly branched, somewhat tubular, pitted, sulphur-coloured; ultimate branches divaricated, zigzag, entangled, with forked points. Shields nearly sessile, brown, with a pale wavy border.

SYN. *Lichen ochroleucus.* *Ehrh. Beitr. fasc. 3. 82.*
Ach. Prodr. 215. Dicks. Crypt. fasc. 3. 19. With.
v. 4. 46. Hull. 306.

Usnea ochroleuca. *Hoffm. Pl. Lich. v. 2. 7. t. 26.*
f. 2.

Parmelia ochroleuca. *Ach. Meth. 271.*

2074



Specimen published by J. S. Kewley, London

[1880]

LICHEN jubatus.

*Wiry Lichen, or Rock Hair.**CRYPTOGAMIA Algæ.***GEN. CHAR.** Male, scattered warts.

Female, smooth shields or tubercles, in which the seeds are imbedded.

SPEC. CHAR. Filamentous, cartilaginous, smooth, round, hollow, very much branched, of a smoky brown: its branches tapering, often compressed at their divarications. Warts tumid, powdery, white. Shields sessile, blackish, with an entire margin.**SYN.** Lichen jubatus. *Linn. Sp. Pl.* 1622. *Ach. Prod.* 219. *Huds.* 561. *With. v.* 4. 46. *Hull.* 306. *Relh.* 473. *Abbot.* 270. *Lightf.* 891. *Schrad. Journ. v.* 1. 83. *t.* 3. *f.* 4.*Usnea jubata nigricans.* *Dill. Musc.* 64. *t.* 12. *f.* 7.*Musculus corallinus saxatilis foeniculaceus.* *Raii Syn.* 65.*Parmelia jubata.* *Ach. Meth.* 272.**S.** Lichen chalybeiformis. *Linn. Sp. Pl.* 1623. *Ach. Prod.* 220. *With. v.* 4. 47. *Hull.* 306. *Lightf.* 892.*Usnea rigida, horsum vorsum extensa.* *Dill. Musc.* 66. *t.* 13. *f.* 10.

LICHEN Roccella.

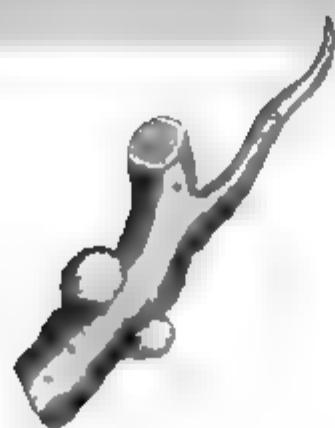
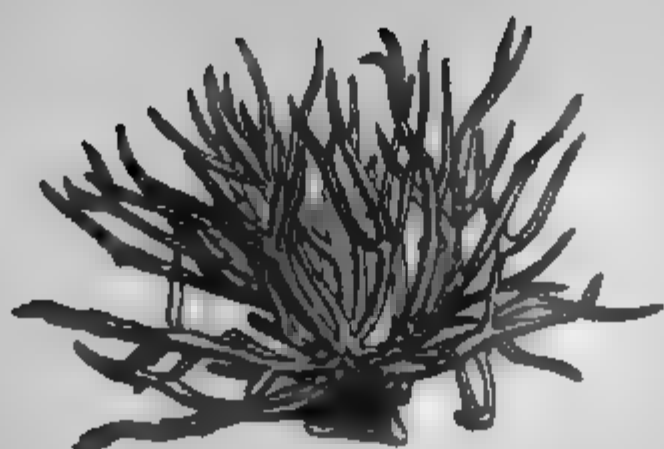
*Dyer's Lichen, or Orchall.**CRYPTOGAMIA Algæ.***GEN. CHAR.** Male, scattered warts.

Female, smooth shields or tubercles, in which the seeds are imbedded.

SPEC. CHAR. Shrubby, solid, cylindrical, without leaves, but little branched. Tubercles alternate, powdery.**SYN.** Lichen Roccella. *Linn. Sp. Pl.* 1622. *Dicks. Crypt. fasc.* 3. 19. *Smith's Tour*, v. 1. 198.*Coralloides corniculatum fasciculare tinctorium*, Fuci teretis facie. *Dill. Musc.* 120. *t.* 17. *f.* 39.

MR. DICKSON has lately admitted this Lichen as a British native, on the authority of Mr. Gosselin, who found it in Guernsey. Our specimen was gathered by Lord Viscount Lewisham on Portland Island. It grows on maritime rocks, very common in the Mediterranean and the Levant. Linnæus had it too from China.

271





LICHEN articulatus.

Jointed Lichen.

CRYPTOGAMIA Algæ.

GEN. CHAR. Male, scattered warts.

Female, smooth shields or tubercles, in which the seeds are imbedded.

SPEC. CHAR. Filamentous, pendulous, cracked and tumid. Tubercles flesh-coloured, rugged.

SYN. Lichen articulatus. *Linn. Sp. Pl.* 1623. *Huds. Fl. An.* 561. *Wub. Bot. Arr.* v. 3. 219. *Sibth. Oxon.* 335.*Muscus arboreus nodosus. Raii Syn.* 65.*Uinea capillacea et nodosa. Dill. Musc.* 60. t. 11. f. 4.§ Lichen barbatus. *Linn. Sp. Pl.* 1622. *Huds. Fl. An.* 561. *Wub. Bot. Arr.* v. 3. 220. *Lightf. Scot.* 890.*Uinea barbata, loris tenuibus fibrosis. Dill. Musc.* 63. t. 11. f. 6.

SENT by Dr. Pulteney from Dorsetshire with the last. We do not hesitate to make the *L. articulatus* fig. 1, and *barbatus* fig. 2, one species, the propriety of which was first hinted by Mr. Lightfoot in *Fl. Scot.*, and we have adopted the same opinion from having also examined the specimens of Dillenius, which in this case are the original authority. Both are found hanging upon trees in old woods in England and Scotland. The *barbatus*, which is the least uncommon of the two, is less tumid, and not always so full of transverse cracks as the *articulatus*. The latter has never yet been found in fructification with us, but in the south of Europe it bears precisely the same tubercles as *barbatus*. (see *Sm. & S. Flor.* 2. 1. 312 and 335.) which are small, very convex, rugged, and of a pale flesh-colour. By thick tubercles, and the swellings of the stem, (the interstices of which are most generally cracked, and discover the central pore, as in *L. frutescens* the species before us, and its variety, may be easily known from all others of the same tribe.



2



LICHEN floridus.
Flowery Lichen.

CRYPTOGAMIA Alga.

GEN. CHAR. Male, scattered warts.

Female, smooth shields or tubercles, in which the seeds are imbedded.

SPEC. CHAR. Filamentous, furnished with a central thread, much branched, erect, greenish gray; branches spreading, round, fibrous, warty, bearing broad flat shield-like radiated dilatations, of their own colour. Tubercles on the branches, lateral, flesh-coloured, rugged.

Syn. Lichen floridus. *Linn. Sp. Pl.* 1624. *Huds.* 560. *Witb. v.* 4. 50. *Hall.* 307. *Relh.* 440. *Dicks. H. Sicc. fasc.* 11. 25. *Achar. Prod.* 224.

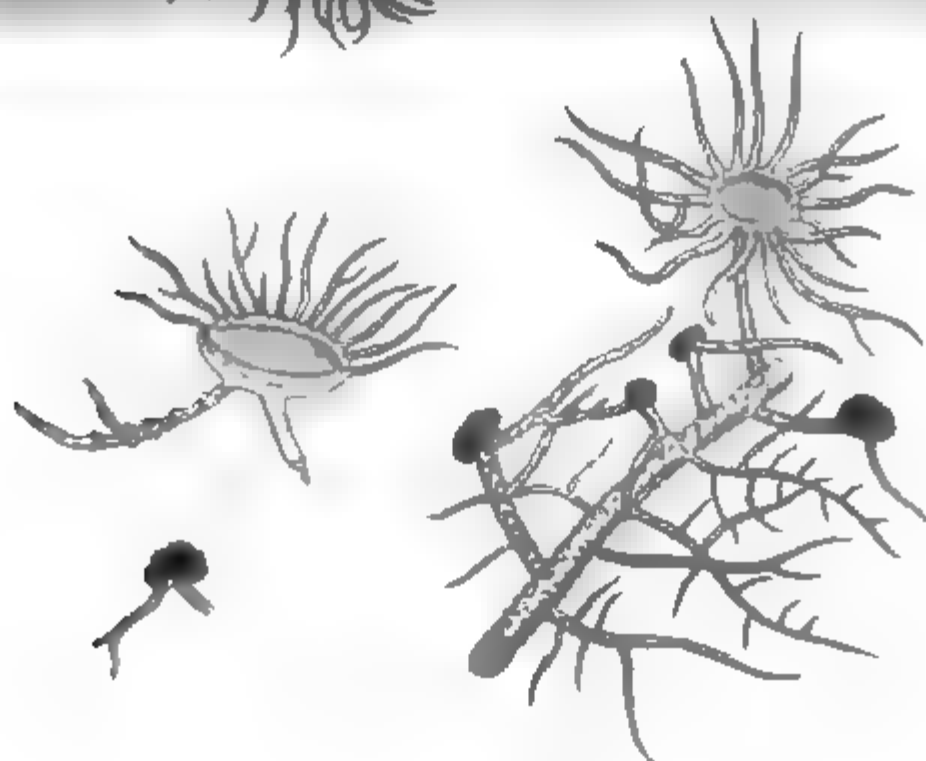
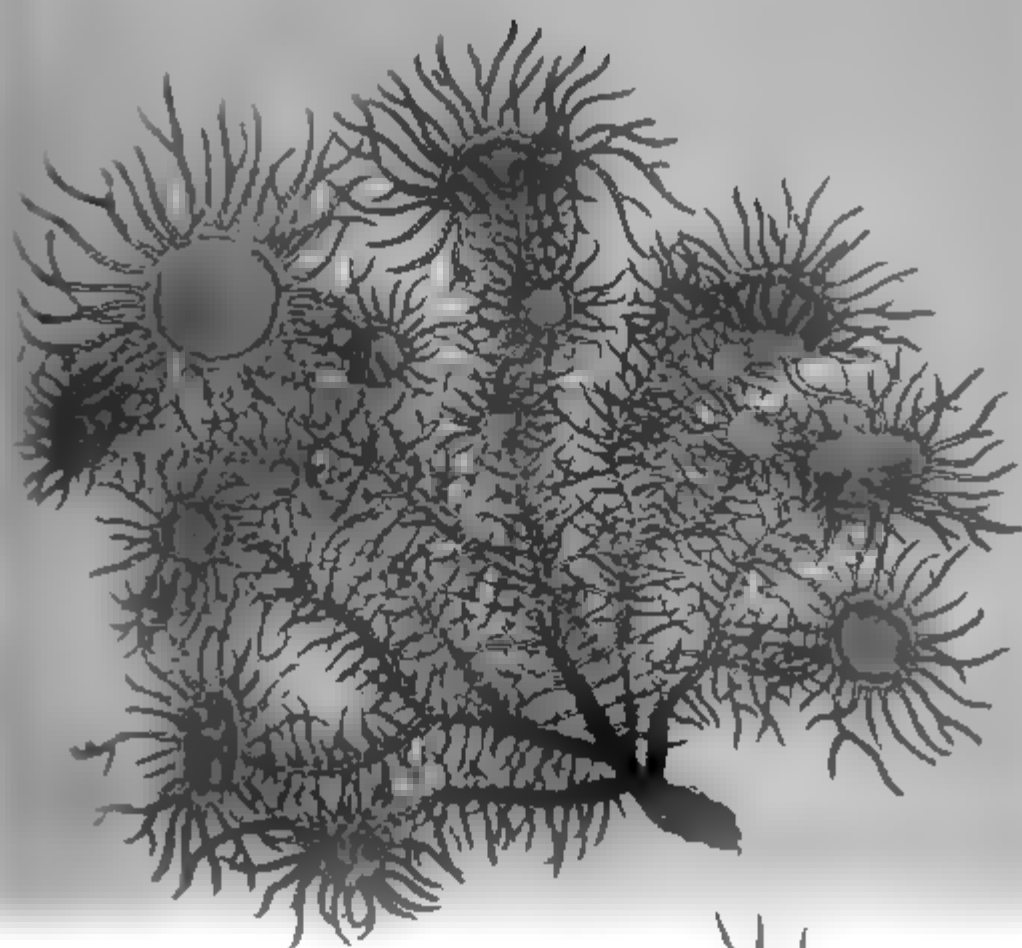
Usnea vulgarissima tenuior et brevior, cum orbiculis.
Dill. Musc. 69. t. 13. f. 13.

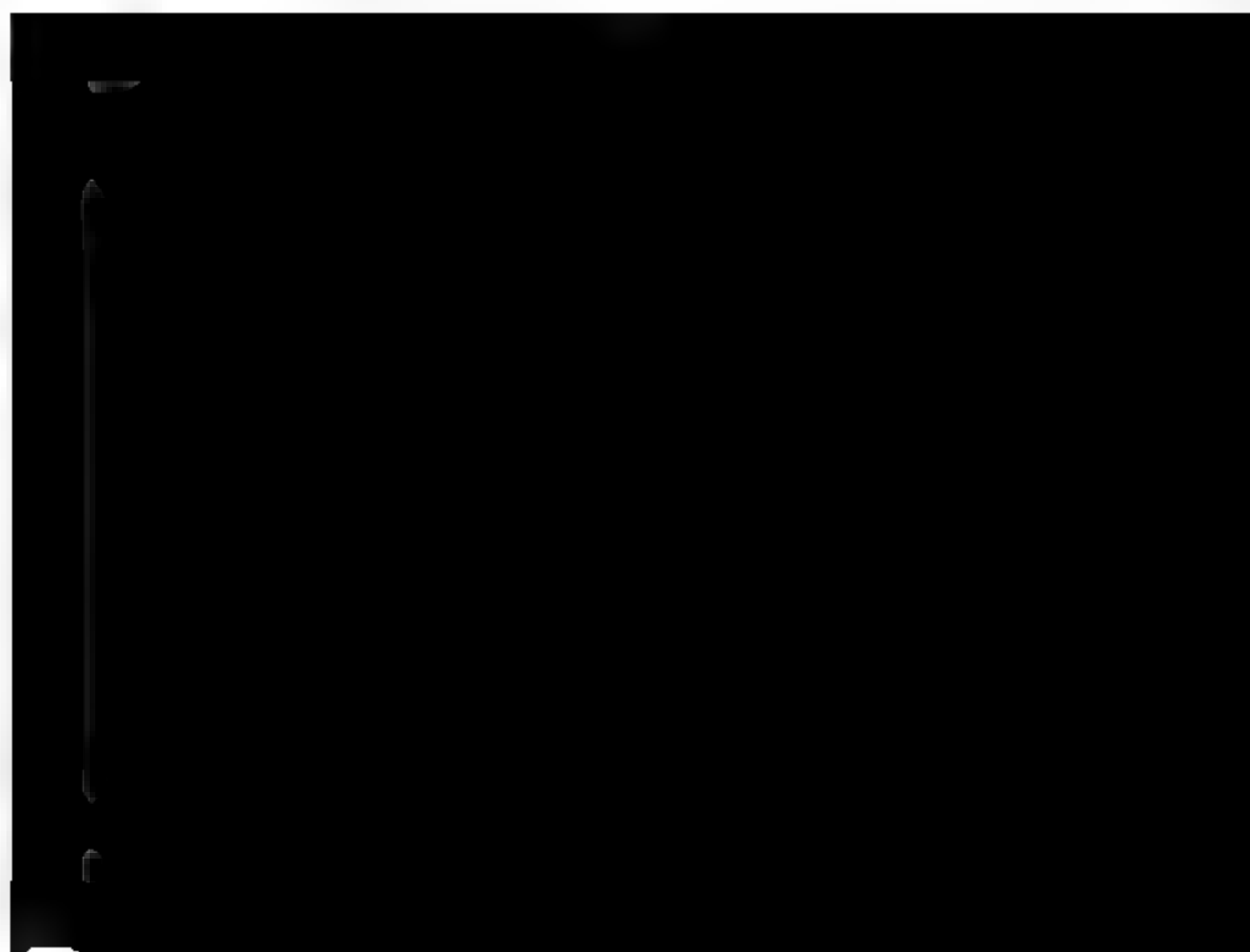
Muscus arboreus cum orbiculis. *Raii Syn.* 65.

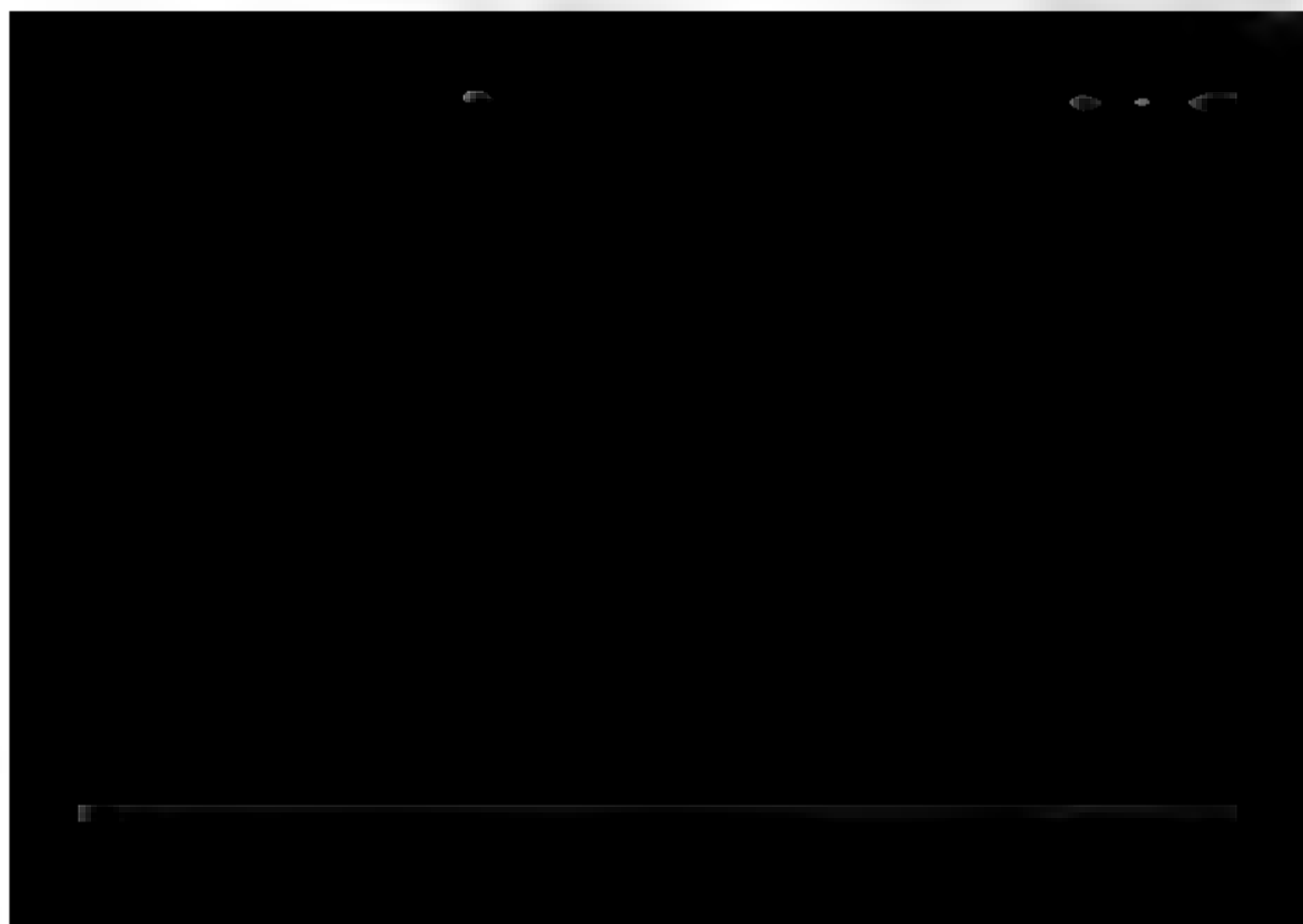
GATHERED at Hafod, Cardiganshire. It chiefly grows on dead branches, but the radiated disks are seldom found, except on the higher trees in old woods; and the tubercles, or real fructification, having never before been even suspected to exist, are here first presented to the curious botanist.

The stems form upright bushy pale greenish tufts, rising from a hard black base, and are round, composed of a crustaceous

6/2









1892 2 18 1892. 2364. 1892. 1892. 1892.

LICHEN plicatus.
Stringy Lichen.

CRYPTOGAMIA *Alga.*

GEN. CHAR. Male, scattered warts.

Female, smooth shields or tubercles, in which the seeds are imbedded.

SPEC. CHAR. Filamentous, pendulous; the branches entangled. Shields radiated.

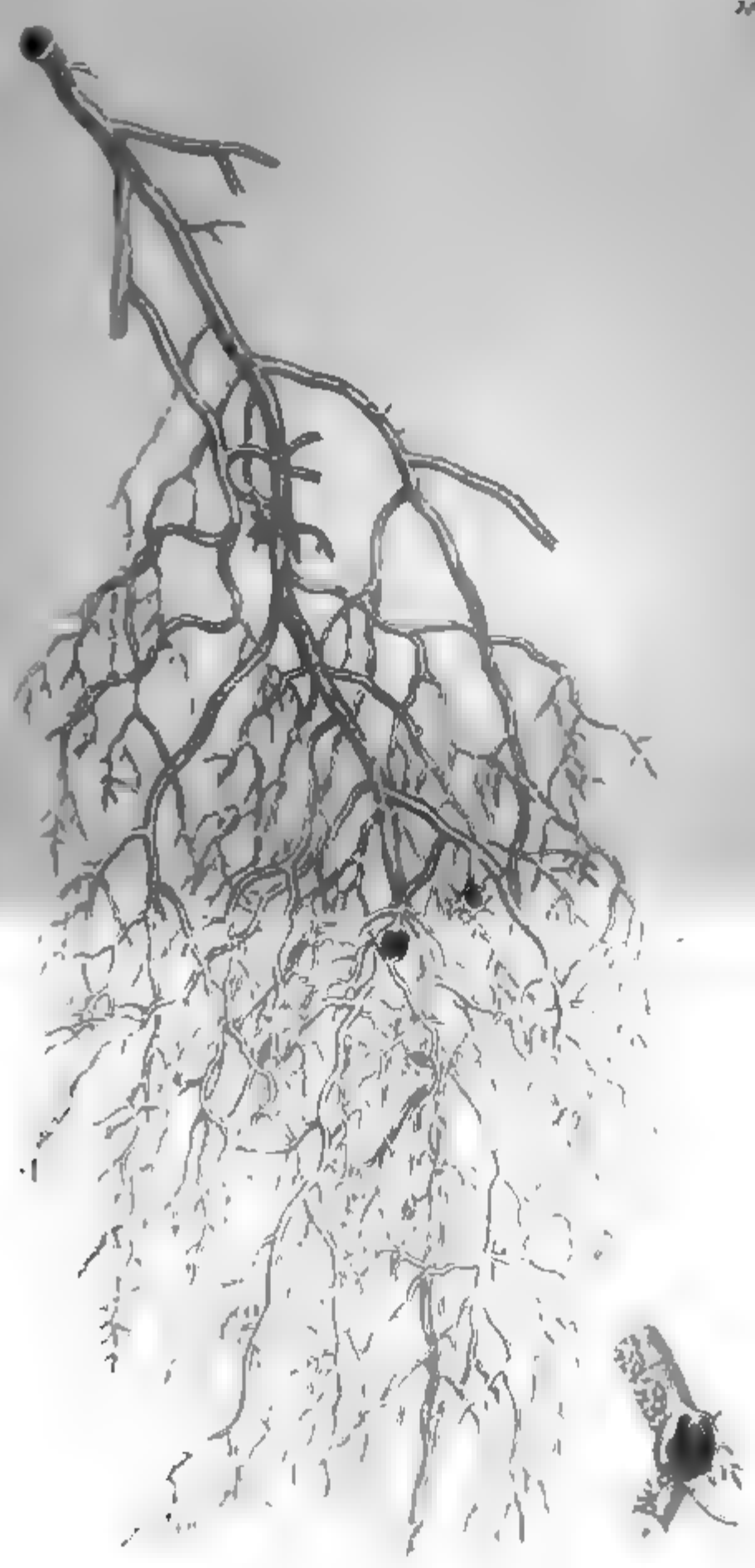
SYN. Lichen plicatus. *Lim. Sp. Pl.* 1622. *Huds. Fl. An.* 560. *Willd. Bot. Arr. v.* 3. 222. *Relb. Cant.* 441. *Lightf. Scot.* 889.

Muscus arboreus, *Usnea Offic.* *Raii Syn.* 64.

Usnea vulgaris, *loris longis implexis.* *Dill. Musc.* 56. *t. II. f. 1.*

RARELY found hanging from the branches of old trees in dark shady woods, in Scotland as well as England. Dr. Pulteney communicated it from Dorsetshire.

The whole plant is from one to two feet, or even more, in length, forming a thick entangled mass of branching fibres, which are cylindrical, all more or less divaricated and undu-
lating, and then straight. They are of an equal strength



(720)

LICHEN tristis.

Dark radiated Lichen.

CRYPTOGAMIA Algae.

GEN. CHAR. Male, scattered warts.

Female, smooth shields or tubercles, in which the seeds are imbedded.

SPEC CHAR. Shrubby, branched, somewhat compressed, solid, blackish; the branches acute. Shields of the same colour, flattish, radiated.

SYN. Lichen tristis. *Weber. Gotting. 209. t. 5. Wübb. 43. Hull. 305.*

L. radiatus. *Hudf. 559. Dickf. H. Sicc. fasc. 9. 25.*

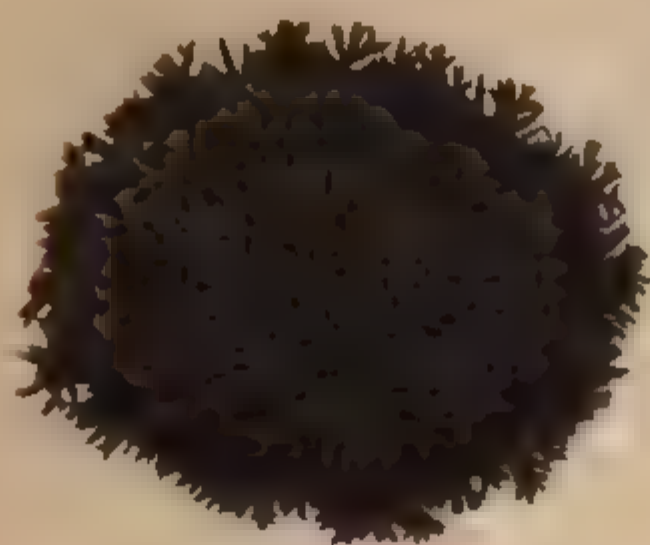
L. corniculatus. *Lightf. 885.*

Cornicularia tristis. *Hoffm. Pl. Lich. t. 34. f. 1.*

Coralloides corniculatum, Fuci tenuioris facie. *Dill. Musc. 118. t. 17. f. 37.*

A NATIVE of alpine mountainous rocks in Scotland, Wales,





L I C H E N hispidus.


Prickly Lichen.

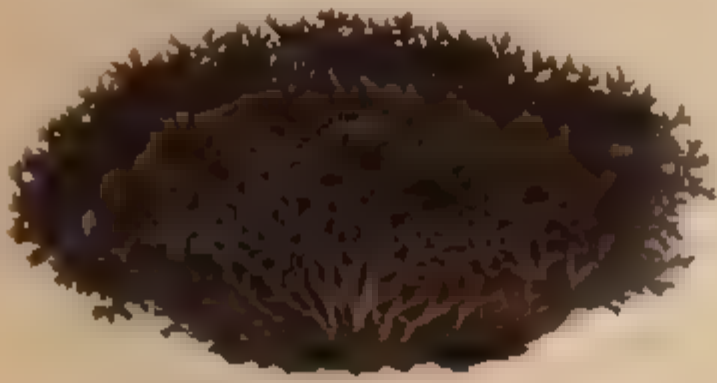
C R Y P T O G A M I A *Alga.***GEN. CHAR.** Male, scattered warts.

Female, smooth shields or tubercles, in which the seeds are imbedded.

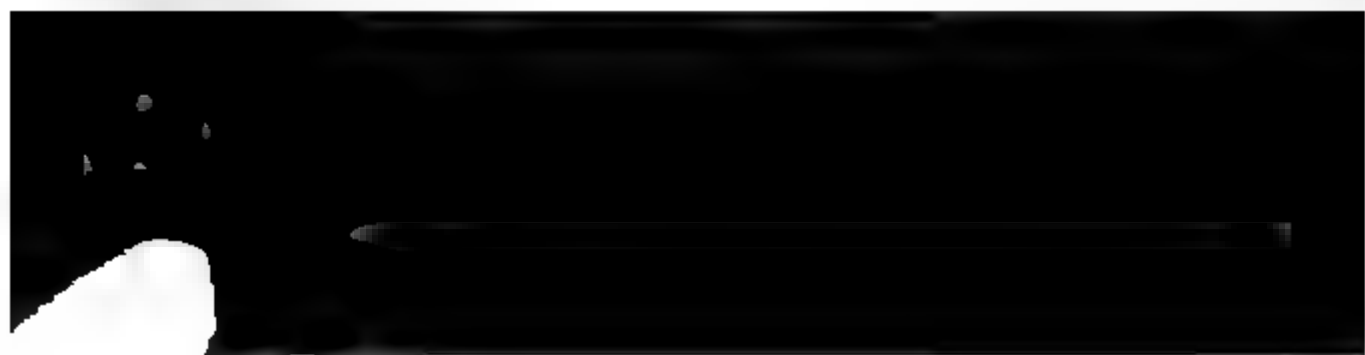
SPEC. CHAR. Shrubby, solid, much branched, smooth, dark brown; branches divaricated, rather compressed, terminating in numerous spines. Shields with a jagged prickly margin.**SYN.** Lichen hispidus. *Lightf.* 883. *With.* v. 4. 43. *Sibtb.* 335.L. islandicus γ . *Huds.* 539.Lichenoides non tubulosum ramosissimum, fruticuli specie, rufo-nigrescens. *Raii Syn.* 66.Coralloides fruticuli specie fuscum, spinosum. *Dill. Musc.* 112. t. 17. f. 31.

A NATIVE of heaths, chiefly in mountainous places, not very uncommon, but the shields are very rarely indeed to be met with. Our specimen was gathered near Beverley, by R. Teesdale, Esq. F. L. S.





not yet identified, in the garden





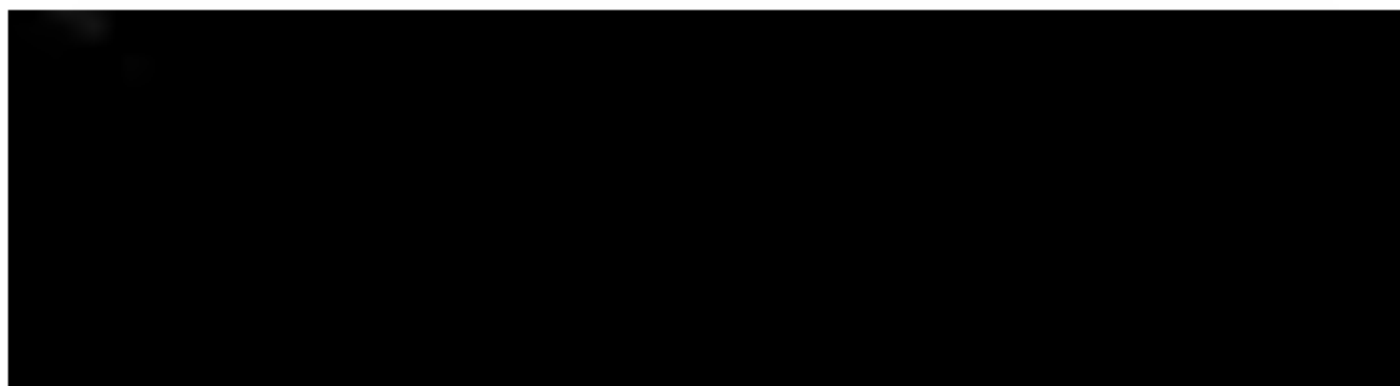
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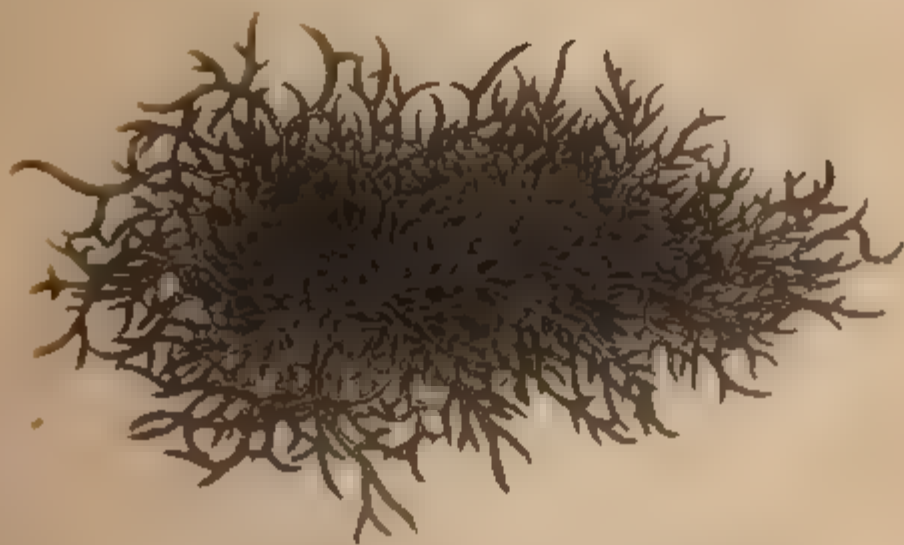
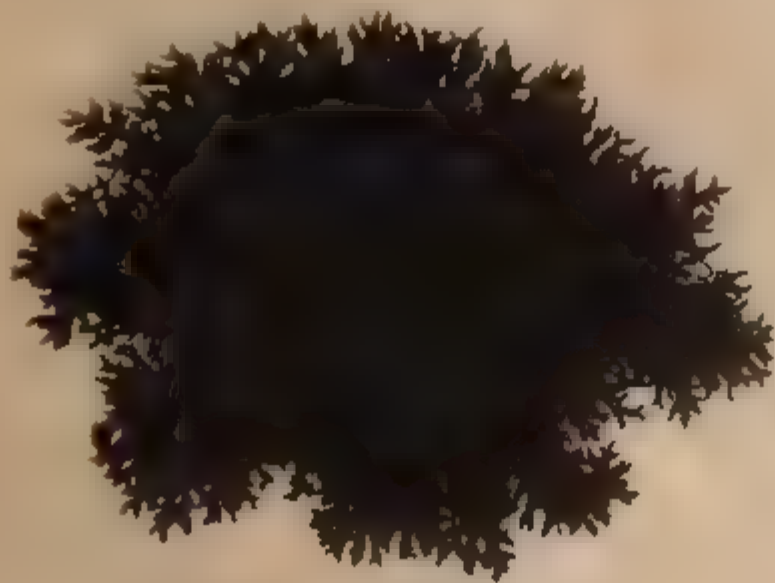
1853



Publ. by J. E. Smith, London.



846.



[2318]

LICHEN pubescens.

Black Tufted Lichen.

CRYPTOGAMIA Algæ.

GEN. CHAR. Male, scattered warts.

Female, smooth shields or tubercles, in which the seeds are imbedded.

SPEC. CHAR. Filamentous, much branched, decumbent, entangled, round, rough, olive black. Shields concave, reddish brown, or blackish, with a margin of their own substance and colour.

SYN. Lichen pubescens. Linn. Sp. Pl. 1623. Fl. Suec. ed. 2. 426. Ach. Prodr. 217.

L. scaber. Huds. 562, 661.

L. exilis. Lightf. 894. With. v. 4. 47. Hull. 306.

L. intricatus. Ehrh. Crypt. 80.

Cornicularia pubescens. Ach. Meth. 305.

Conferva atro-virens. Dillw. Conf. t. 25. & t. D. Syn. 60. Pref. 5.

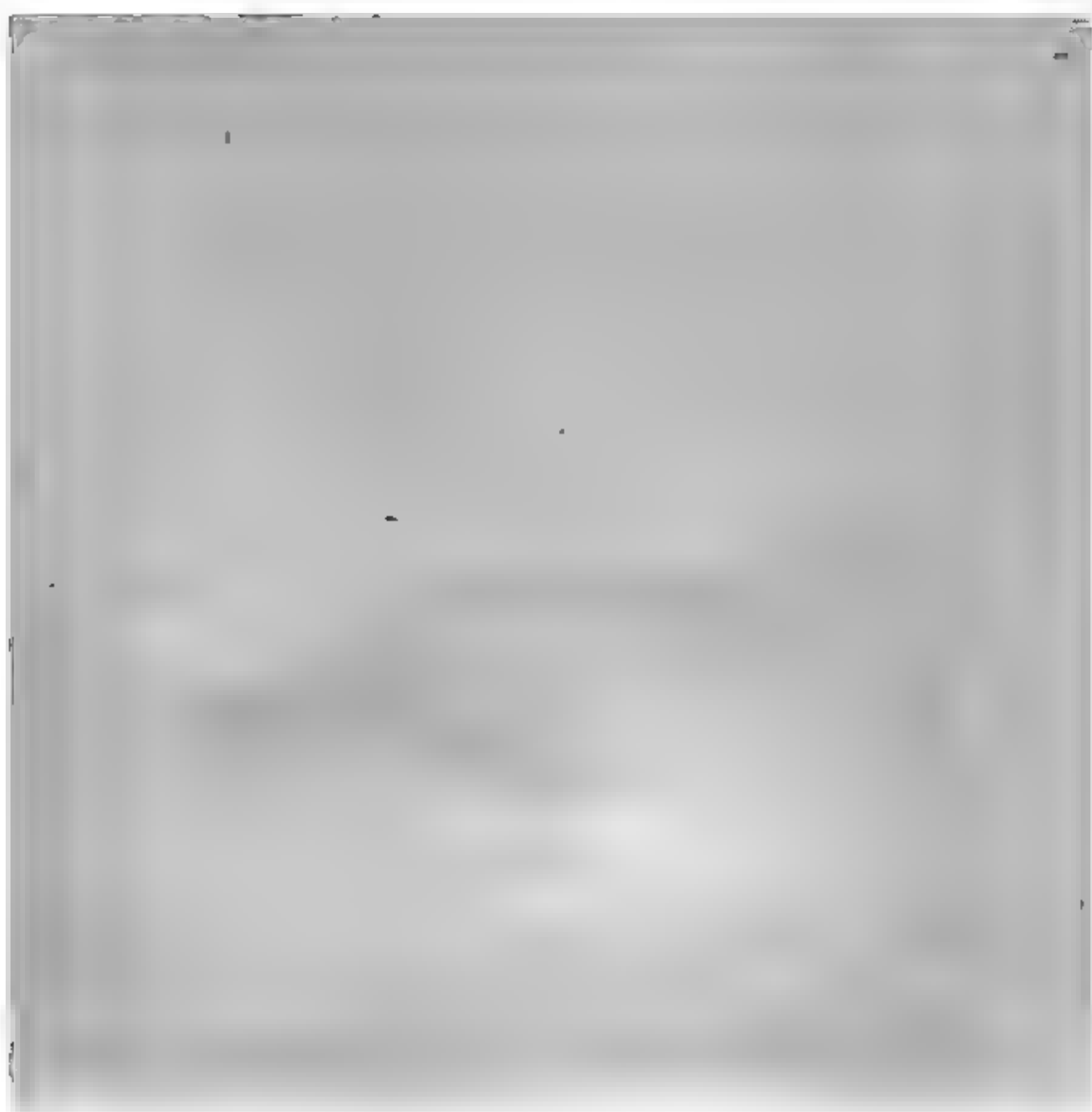
WE have gathered this on Ben Lomond, as well as in Cardiganshire. It always grows, as Acharius well observes, on wet or dripping rocks, not, like most of its tribe, in dry open spots. The shields, a very great botanical rarity, have obligingly been lent us by the Rev. H. Davies, who gathered them in company with Mr. Hudson, and who confirms the synonym of that author, as the Linnean herbarium establishes that of Linnaeus. Dillenius seems to have been unacquainted with this *Lichen*, according to Mr. Davies, whose paper on this, and several species near it, will appear in the 11th vol. of the Linn. Soc. Transactions, and who has examined his herbarium.

This is much smaller than any British *Lichen* of the same sort, and grows decumbent, in dense entangled patches, of an olive black with some polish. Its numerous branches are rough with minute points, their ends acute. Shields lateral, sessile, scattered, small; when young concave, bright reddish brown, semitransparent, with a smooth margin of their own substance and colour; by age they become darker and flatter, and the margin rather uneven.

2318



See also p. 2317 of the same volume



LICHEN heteromallus.

Black Plush Lichen.

CRYPTOGAMIA Algae.

GEN. CHAR. Male, scattered warts.

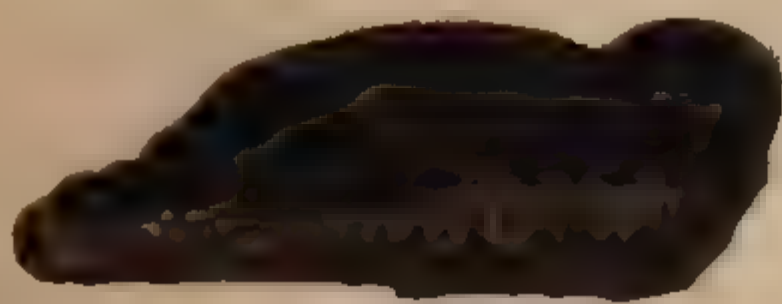
Female, smooth thickish or tubercles, in which the seeds are imbedded.

SPEC. CHAR. Minutely shrubby, ~~densely~~ tufted, erect, entangled, cylindrical, corymbose, black, with palish notched tips.

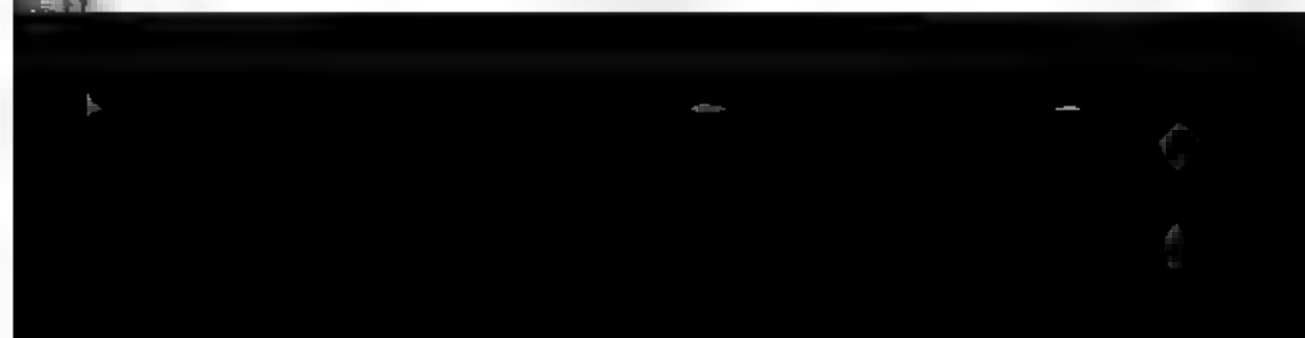
GATHERED by Mr. Sowerby, 10 or 12 years ago, in the autumn, growing in cracks, in the bark of old elms in Hainault Forest. We cannot find any characters suitable to it in Acharius, to whose genus of *Cornicularia* it undoubtedly belongs.

The fronds form wide dense black patches, from a quarter to half an inch thick, harsh and rigid, but not brittle, when dry; and elastic and spongy when wet. Each is repeatedly branch-

2240



Not a real collection by J. L. Smith



LICHEN uncialis.
Short perforated Lichen,

CRYPTOGAMIA Alga.

GEN. CHAR. Male, scattered warts.

Female, smooth shields or tubercles, in which the seeds are imbedded.

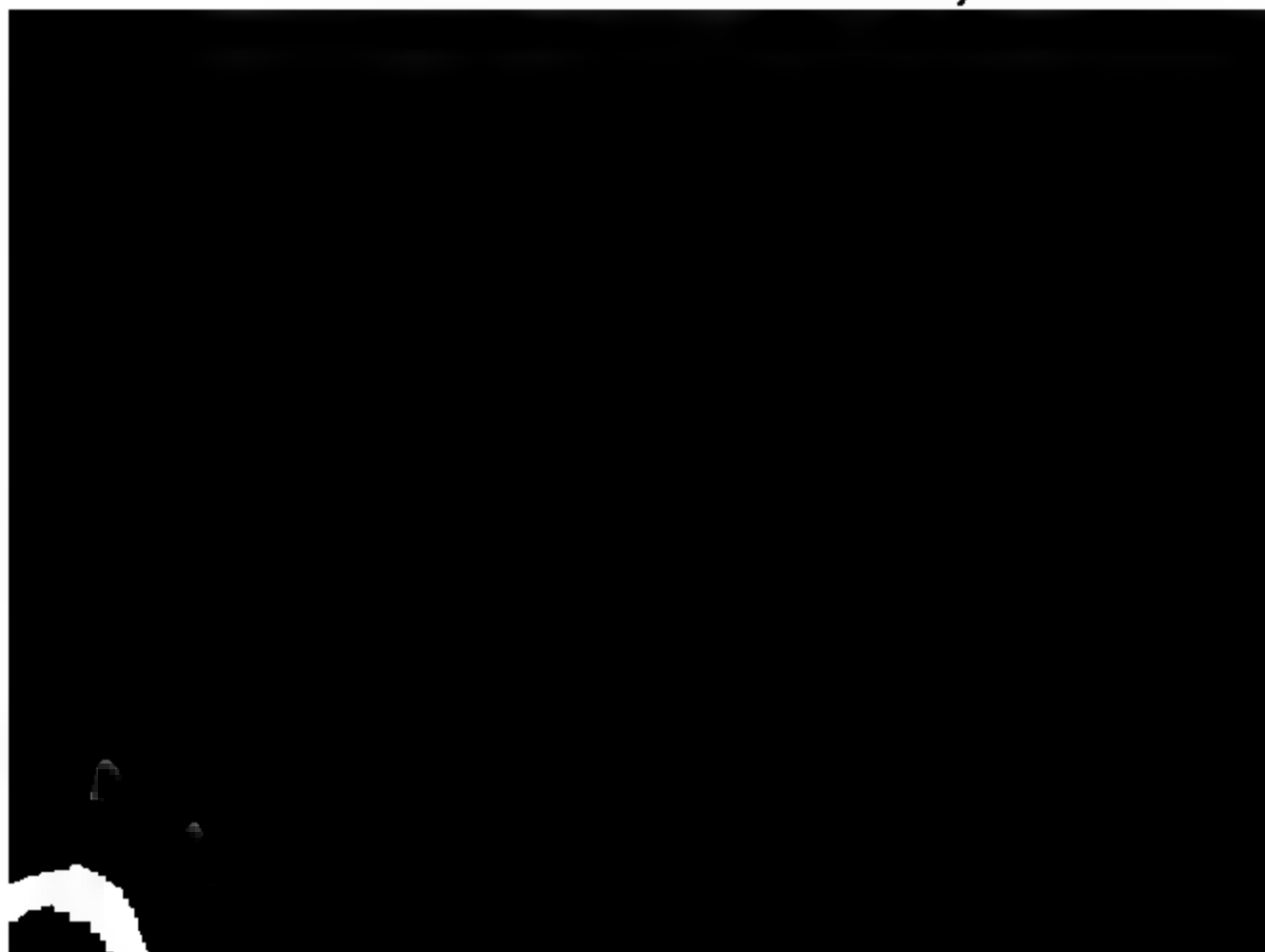
SPEC. CHAR. Shrubby, tubular, perforated; the little branches very short and pointed.

SYN. Lichen uncialis. *Linn. Sp. Pl.* 1621. *Huds. Fl. An.* 555. *Witb. Bot. Arr.* v. 3, 218. *Relb. Cant.* 439.

Lichenoides tubulosum, cauliculis mollioribus & crassioribus, majus & minus. *Raii Syn.* 67.

Coralloides perforatum majus, molle & crassum. *Dill. Musc.* 98. t. 16. f. 21.—& minus, molle & tenue. *Ibid.* 99. f. 22.

LICHEN uncialis is found on heaths nearly as common as



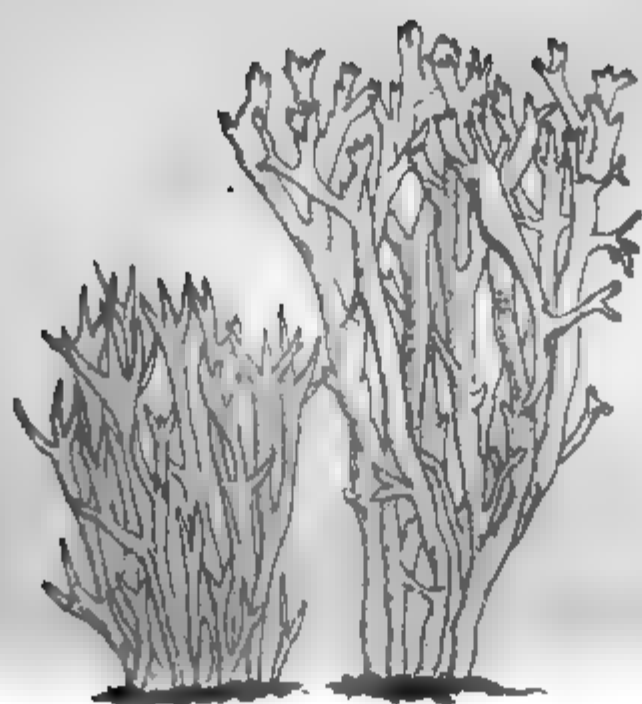
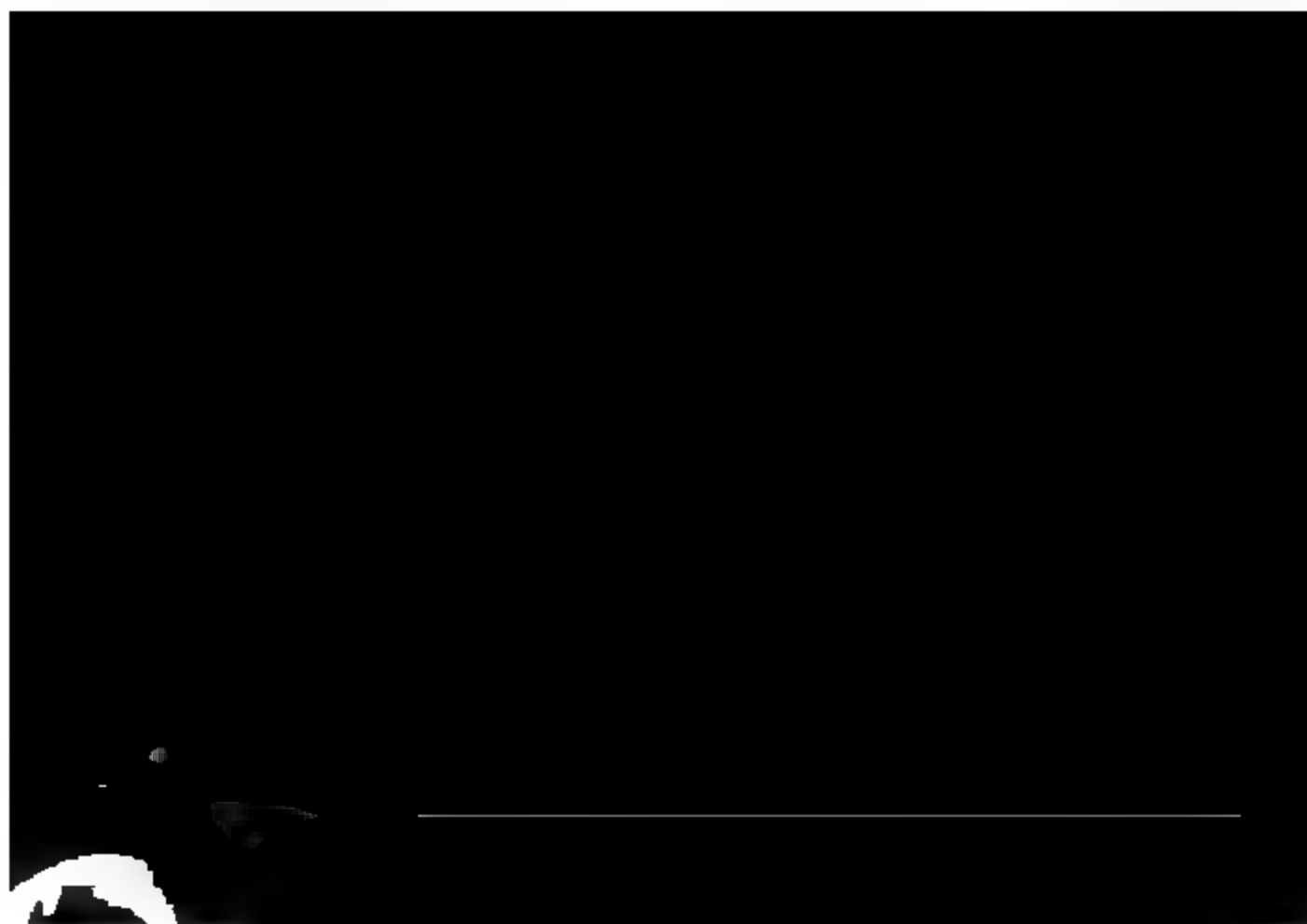
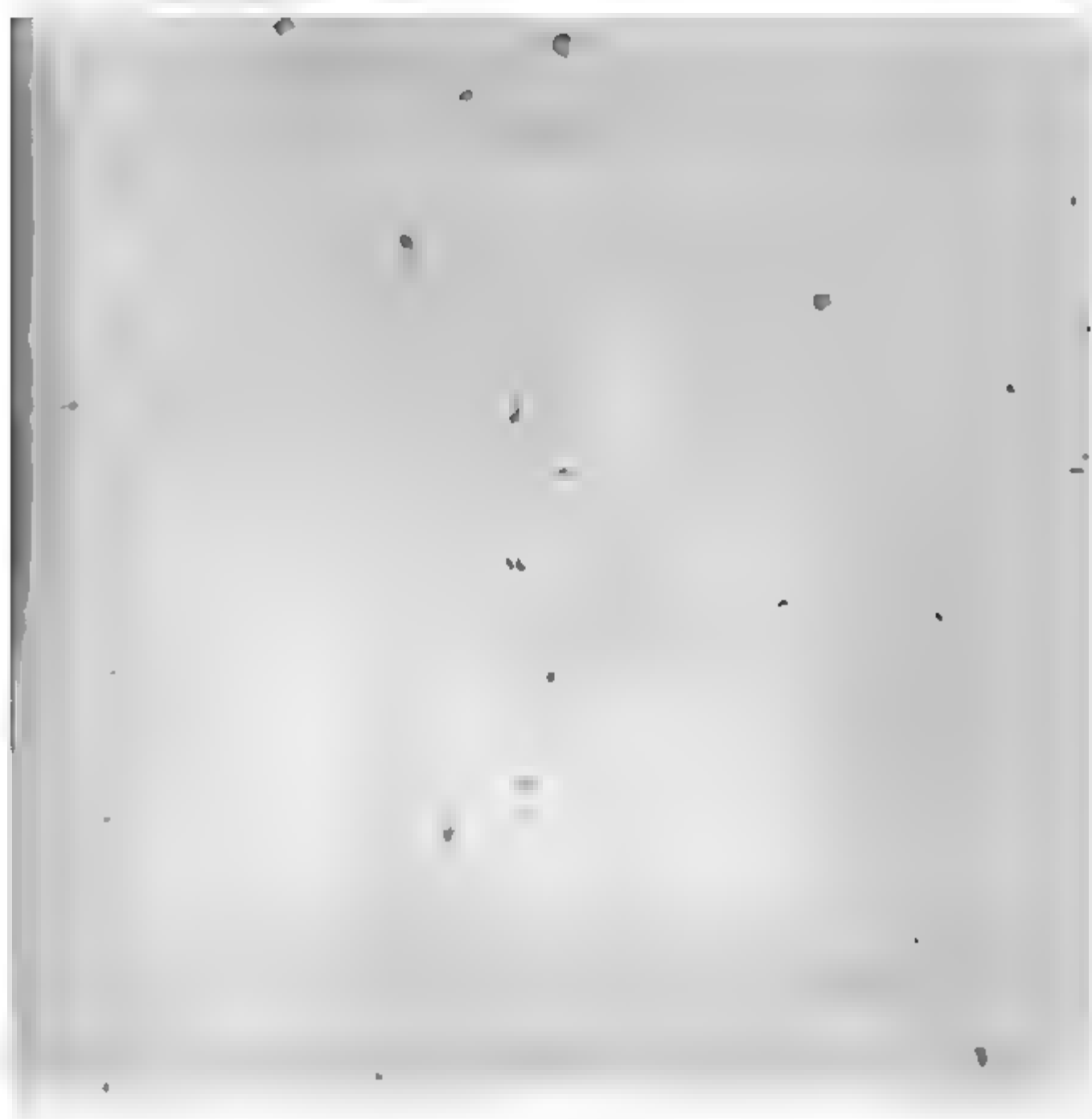


Fig. 100

794





LICHEN pungens.

*Pointed shrubby Lichen.**CRYPTOGAMIA Algæ.***GEN. CHAR.** Male, scattered warts.

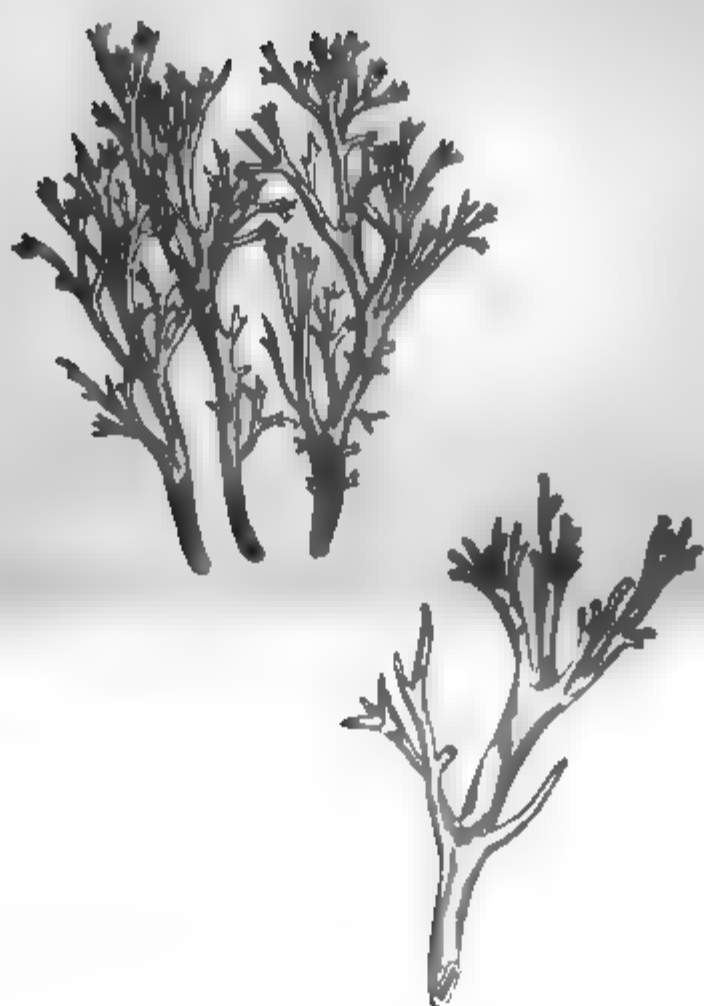
Female, smooth shields or tubercles, in which the seeds are imbedded.

SPEC. CHAR. Shrubby, tubular, grey, forked, much branched, without axillary perforations; branches twisted and entangled, taper-pointed. Tubercles minute, terminal, solitary, brownish-black.**SYN.** Lichen pungens. *Ach. Prod.* 202.*Bæomyces* pungens. *Ach. Meth.* 354.

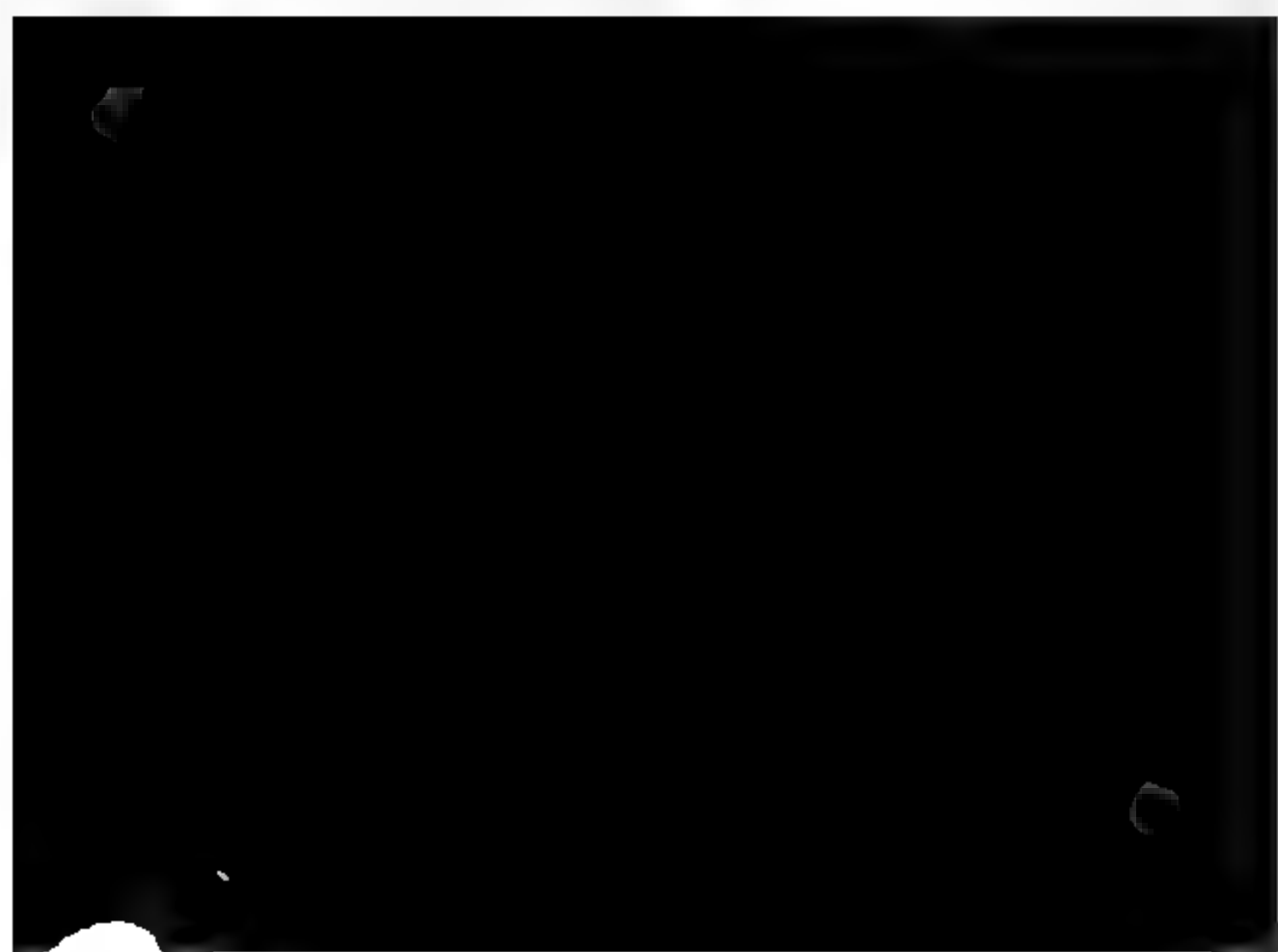
GATHERED upon Esher Common, in Surry, by Mr. W. Borrer, and on that gentleman's authority, so great in this tribe, we publish this Lichen under the above name, having ourselves no materials for forming a decisive judgement. For this an original specimen from Dr. Acharius would be necessary.

It comes very near *L. uncialis*, t. 174, but is said to want the axillary perforations. We find however, not very unfrequently, lateral fissures below the origin of the clustered branches, but these are indeed different from the round central openings of *uncialis*. The branches too are more twisted and zigzag; Acharius says they are more brittle. The colour is a greenish grey. The numerous, sharp, tapering, ultimate branches are tipped with a brownish black; of which colour also are the small, solitary, round tubercles found at the extremities of some of them.

2444



Gracilaria





LICHEN rangiferinus.

Rein-deer Lichen.

CRYPTOGAMIA *Alga.*

GEN. CHAR. Male, scattered warts.

FEMINE. Smooth stalks or tubercles, in which the
seeds are imbedded.

SPEC. CHAR. Shrubby, tubular, very much branched,
not long; the male branches divaricated and
woody.

FR. *Lichen rangiferinus.* *Lin. Sp. Pl.* 1620. *Huds.*
Fl. Br. 553. *Walt. Bot. Arr.* v. 3. 216. *Relb.*
Cent. 438.

*Lichens tubulorum ramosissimum, fruticuli
specie confusum.* *Rex Syn.* 66.

*Caralides montanum fruticuli specie ubique can-
escens.* *Dill. Myc.* 107. t. 16. f. 29.—*frutic.*
specie confusum, corticulis rufescentibus, ibid.
113. t. 16. f. 30.

T This is the most common of the northern alpine



LICHEN vermicularis.

Vermicelli Lichen.

CRYPTOGAMIA *Algæ.*

GEN. CHAR. Male, scattered warts.

Female, smooth shields or tubercles, in which the seeds are imbedded.

SPEC. CHAR. Cartilaginous, leafless, snow-white. Stalks hollow, threadshaped, tapering at each end, acute, procumbent, subdivided.

SYN. *Lichen vermicularis.* Swartz in *Linn. fil. Met.* *Musc.* 37. *Ach. Prod.* 205. *Dicks. Crypt. fasc.* 2. 23. t. 6. f. 10. *With. v.* 4. 41. *Hull.* 304.

L. subuliformis. *Ehrh. Crypt.* 30.

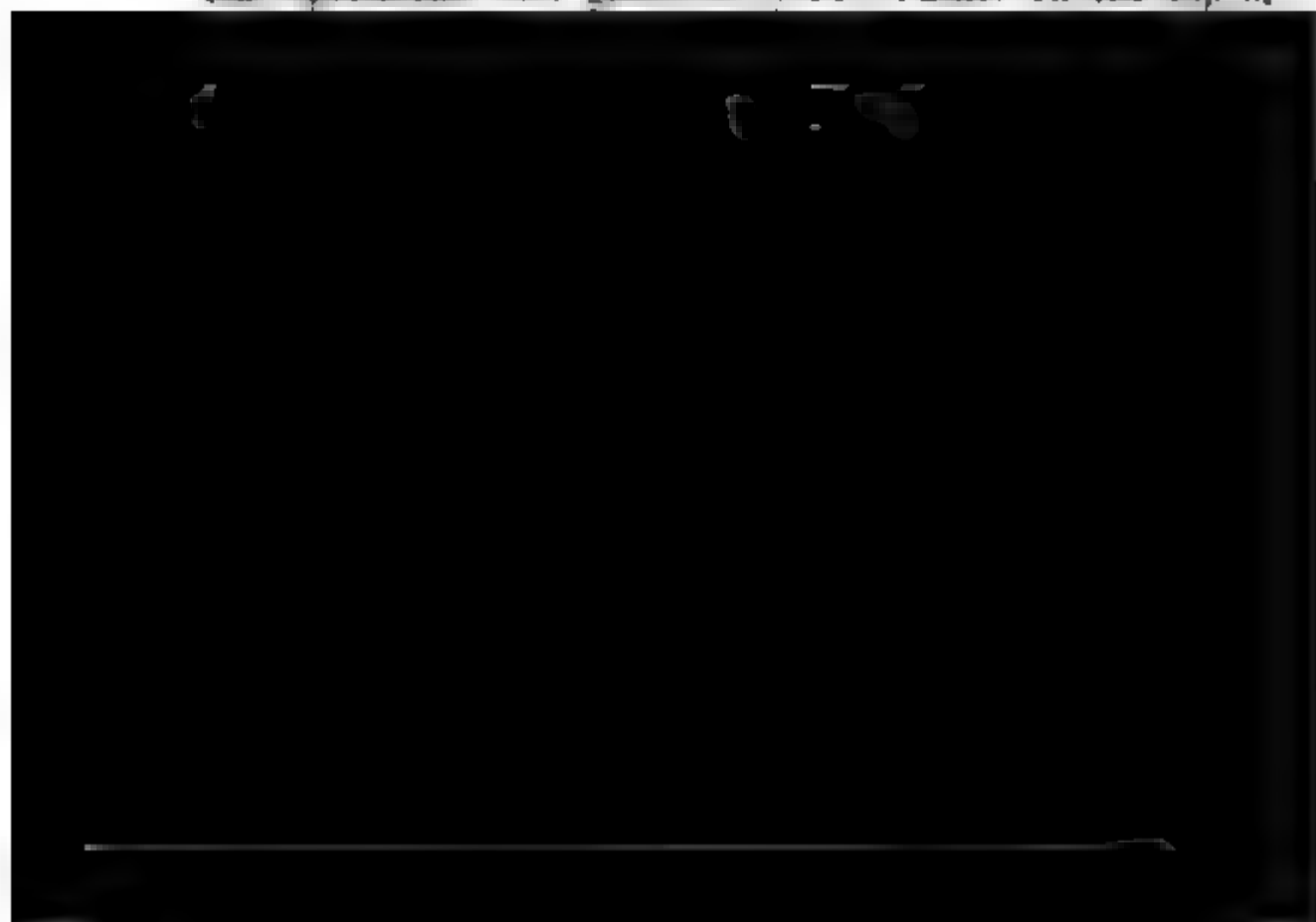
L. tauricus. *Wulf. in Jacq. Coll. v.* 2. 177. t. 12. f. 2.

L. tubulatus, nivei ferè candoris, ramosus, apicibus recurvis acutis. *Scheuchz. It. Alp. v.* 1. 137. *Dill. Musc.* 91. t. 15. f. 14, E. (not F, as erroneously printed near the bottom of p. 1836.)

Bæomyces vermicularis. *Ach. Meth.* 359.

Cladonia subuliformis. *Hoffm. Pl. Lich. v.* 2. 15. t. 29. f. 1—3.

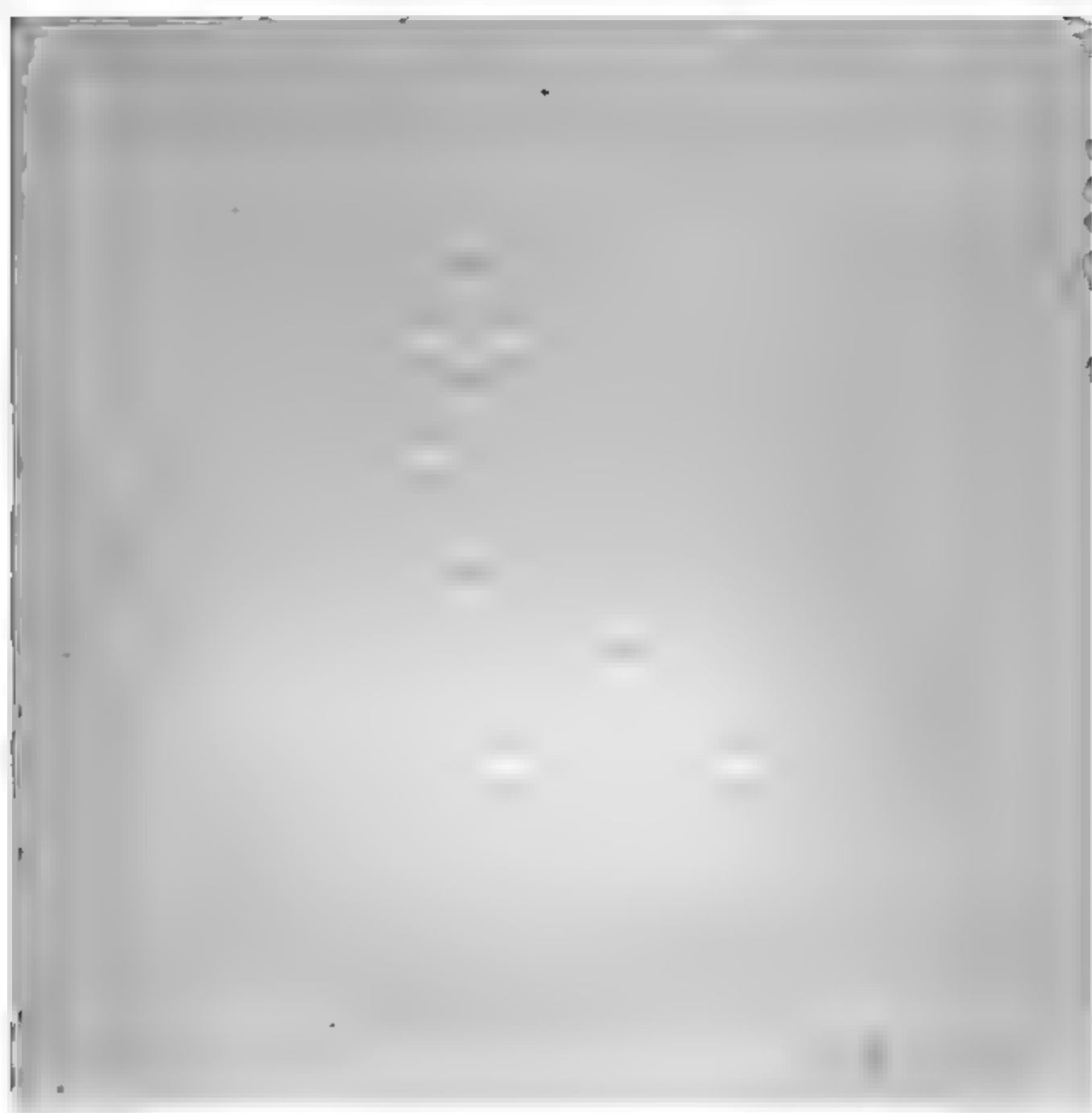
FIRST observed on the Scottish mountains by Mr. Dickson. Our specimens were gathered by Mr. Turner on the top of



2 14



from my collection by J. Harvey Smith



LICHEN Papillaria.

*Papillary Lichen.**CRYPTOGAMIA Alga.*

GEN. CHAR. Male, scattered warts.

Female, smooth shields or tubercles, in which the seeds are imbedded.

SPEC. CHAR. Cartilaginous; leaflets minute, rounded, imbricated. Stems mostly simple, erect, short, tubular, inflated, whitish. Tubercles terminal, solitary, globose, brown.

SYN. Lichen Papillaria. *Achar. Prod.* 88. *Dicks. Crypt. fasc.* 1. 13. *Witb. v.* 4. 45. *Hull.* 305.

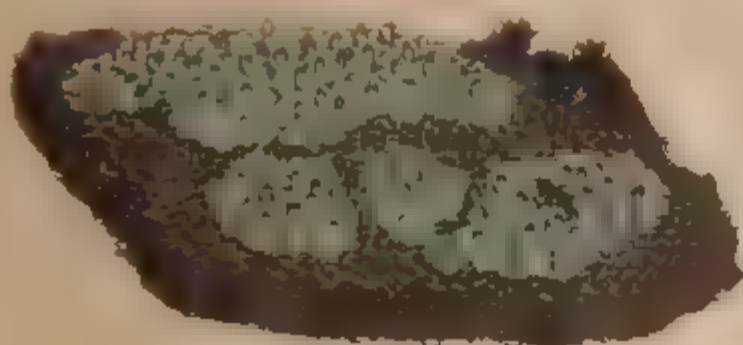
L. madreporæformis, *Wulf. in Jacq. Coll. v.* 3. 105. *t.* 3. *f.* 2.

Coralloides minimum fragile, *Madreporæ instar nascens.* *Dill. Musc.* 107. *t.* 16. *f.* 28.

FOUND on dry exposed heaths in the winter season. Dillenius mentions it as growing near Farnham. Mr. D. Turner sent it from Yarmouth, and we have gathered it on Mousehold heath, Norwich, towards Rackheath.

Surely Mr. Dickson and others, who have placed this Lichen in the Linnæan division of *Genitalia*, have some reason for the

007



Aug 10 1901. Purchased by Mr. Somersby London

LICHEN delicatus.
Delicate Spurious Cup Lichen.

CRYPTOGAMIA Alga.

GEN. CHAR. Male, scattered warts.

Female, smooth shields or tubercles, in which the seeds are imbedded.

SPEC. CHAR. Leaves very minute, stalked, many-cleft, crisped, jagged, mealy, glaucous-grey. Fruit-stalks compressed, simple or divided. Tubercles clustered, tumid, pale brown; at length black.

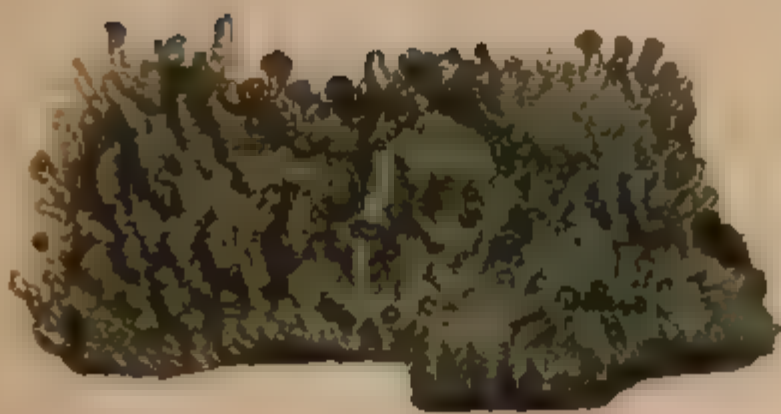
SYN. *Lichen delicatus.* *Ehrh. Crypt. 247. Ach. Prod. 199.*

L. parasiticus. *Hoffm. Enum. 39. t. 8. f. 5.*

Biromyces delicatus. *Ach. Meth. 327.*

COMMUNICATED to us by Mr. W. Borrer, who observed it on rotten rails in St. Leonard's forest, Sussex, for the first time in Britain. His specimens agree with the original one of

N. 21



Dracaena pinnatifida L. f. *Dracaena*



[1782]

LICHEN microphyllus.
Small-leaved Spurious Cup Lichen.

CRYPTOGAMIA Algae.


GEN. CHAR. Male, scattered warts.

Female, smooth shields or tubercles, in which the seeds are imbedded.

SPEC. CHAR. Leaves minute, somewhat imbricated, rounded, nearly entire. Fruit-stalks simple, tubular, smooth. Tubercles solitary, capitate, convex, brown, somewhat lobed.

SYN. *Bæomyces microphyllus.* *Achar. MSS.*

GATHERED by Mr. W. Borrer, on wet heathy places in Tilgate and St. Leonard's forests, Sussex, in the winter, but not frequently. It was at first thought the *Bæomyces cariosus* of Acharius, but, on being sent to that able botanist, was determined by him to be a new species, and named as above.





1782



Deschampsia flexuosa (L.) Deschamps



[1796]

lichen cæspititius.
Green Turfy Lichen.

CHEPTOGAMIA Aiga.

Gen. Char. Male scattered warts.

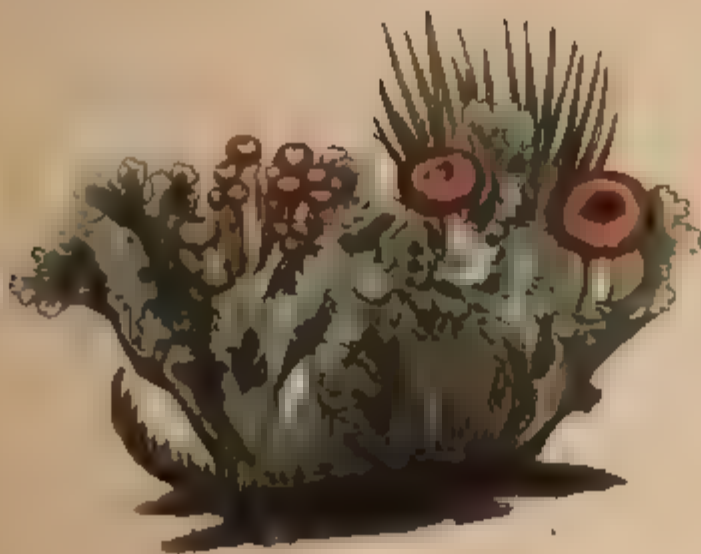
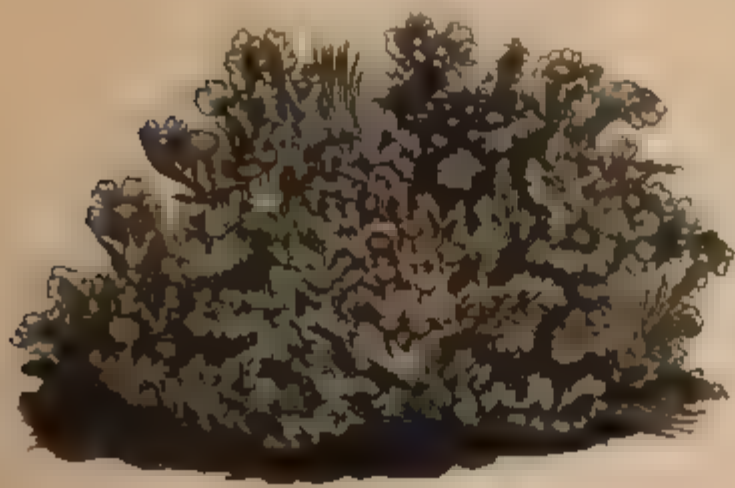
Femae. smooth shields or tubercles, in which
seeds are imbedded.

Spec. Char. Femae clustered, ascending, leafy, pin-
nae cut and crisped; bright green above; white
beneath. Tubercles from the disk of the leaf
arise on tubular stalks.

Syn. Scuturion cæspitius. Persoon in Lst. Annal.
Vol. 7. 33. Art. Mex. 525.

The new knowledge we have of this elegant plant is from
specimens gathered on the mossy trunk of an aged oak in the
New Forest. Taken by C. Linn. Esq., last October. We
have no specimen from Professor Acharius, nor from the ori-
ginal discoverer and describer of the species, the celebrated
Swedish botanist, who leaves no doubt upon our

1796



See also, published by J. J. Smith, London



LICHEN endivifolius.

Endive-leaved Cup Lichen.

CRYPTOGAMIA Algae.

GEN. CHAR. Male, scattered warts.

Female, smooth shields or tubercles, in which the seeds are imbedded.

SPEC. CHAR. Fronds spreading, leafy, cartilaginous, deeply lobed; segments forked and pinnatifid, flattish, slightly twisted; yellowish green above; white beneath. Cups from the upper side, small, turbinate, mostly simple. Tubercles marginal, reddish brown.

BRN. Lichen endivifolius. *Dicks. Crypt. fasc. 3. 17.*
H. Sicc. fasc. 9. 24. Ach. Prodr. 195. With.
v. 4. 60. Hull. 298.

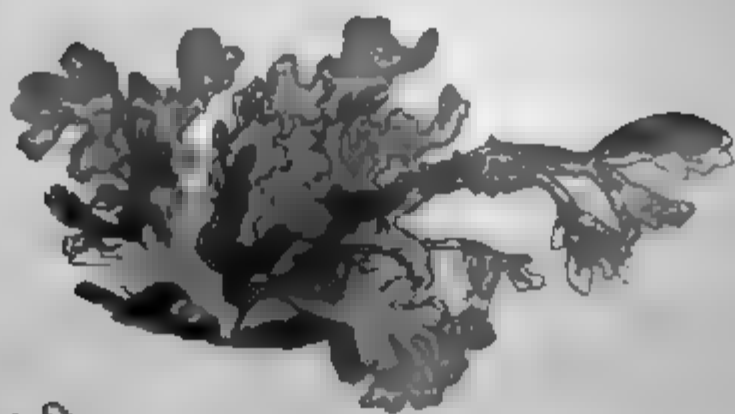
L. pyxidatus terrestris, endiviæ crispæ folio, superne ex flavo et glauco subvirescens, inferne albidus, pyxidulis plerumque simplicibus, receptaculis florum rufescentibus. Mich. Gen. 82. t. 42. f. 3.

Bæomyces endivifolius. Ach. Meth. 351.

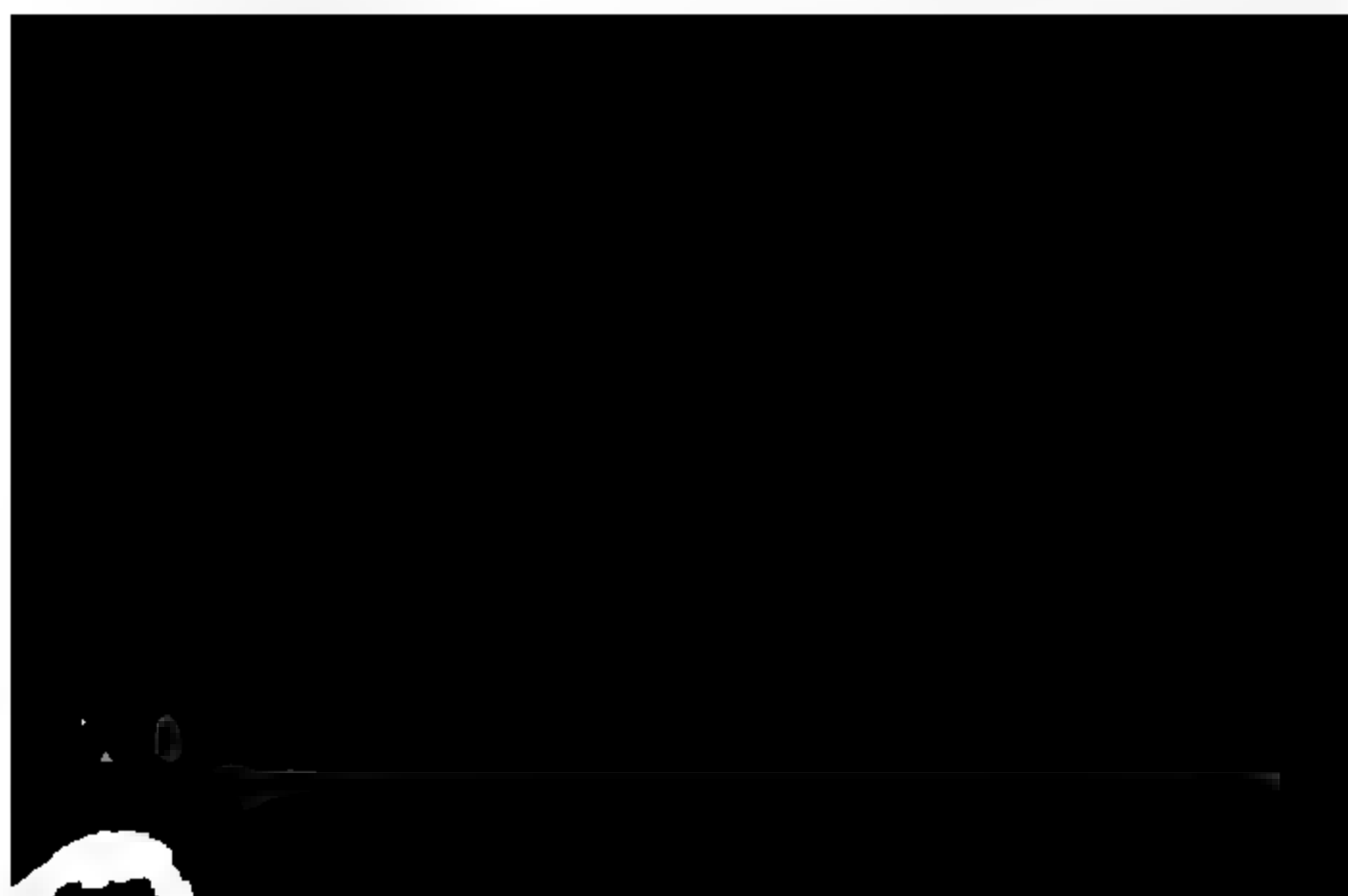
MICHEL records his having received this from London; yet it escaped the mention of British writers, till Mr. Dickson noticed it, growing on the ground, in heathy barren places in Surry and Scotland. We are obliged to him for specimens.

No other of this cup-bearing tribe has such ample foliage, not even *cæspititius*, t. 1796, whose synonyms Acharius in his *Prodromus* confounds with this; but he corrects himself in his *Methodus*. The fronds spread in broad patches, and are rendered conspicuous on black turfy soil by the bright yellowish green of their upper side, and the pure white of the back, which in dry weather is turned upwards; otherwise the segments are flat, or slightly twisted. Their form is nearly linear, deeply forked and pinnatifid, with wavy edges. From the upper surface spring the cups, very minute when young; but such as attain the greatest perfection are near an inch high, turbinate, with a more or less leafy margin, bearing small, reddish, almost sessile tubercles.

2361



Adiantum sp. var. ...





[1867]

LICHEN anomæus.

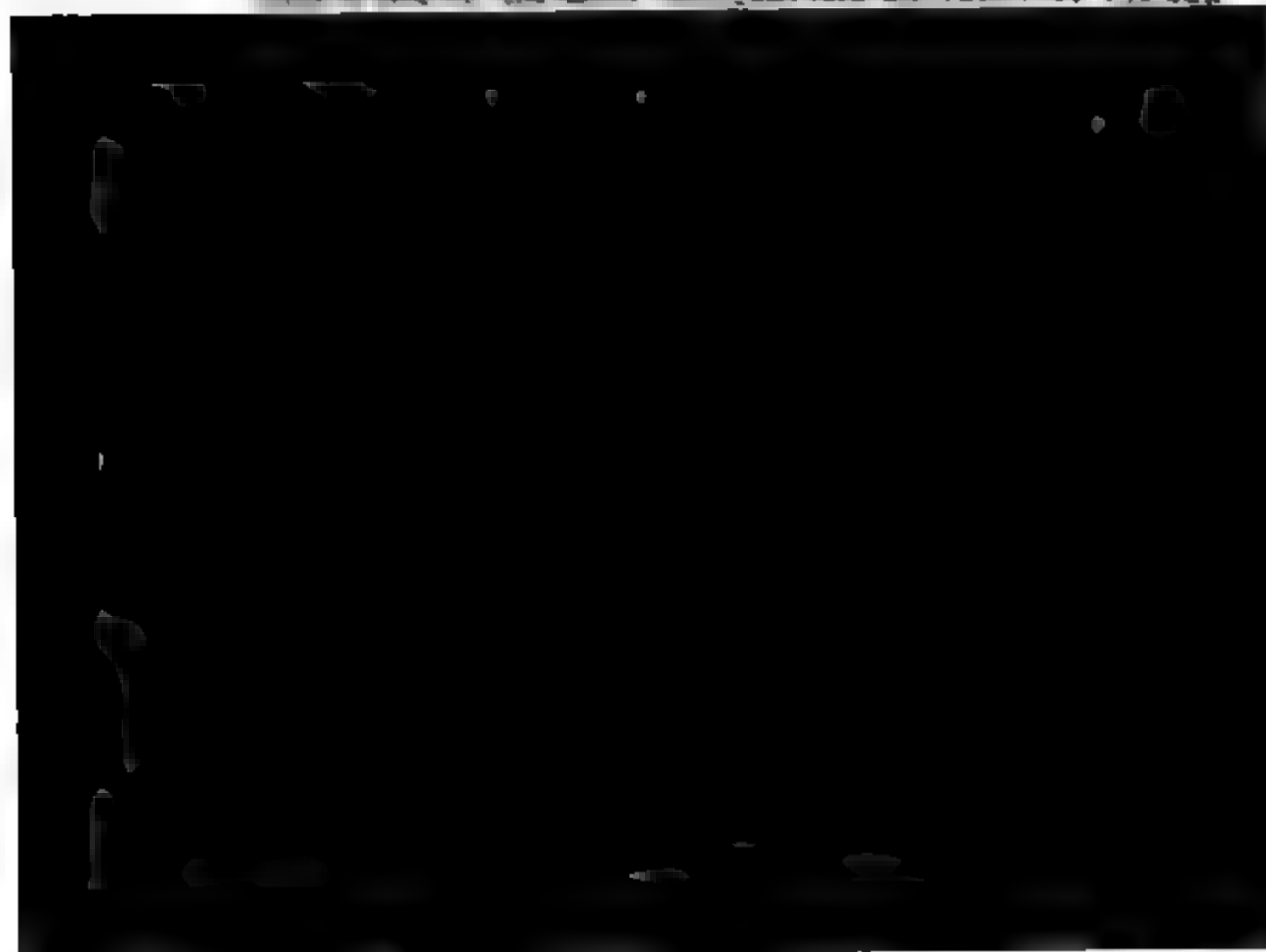
*Confused Brown-headed Cup Lichen.**CRYPTOGAMIA Alga.***GEN. CHAR.** Male, scattered warts.

Female, smooth shields or tubercles, in which the seeds are imbedded.

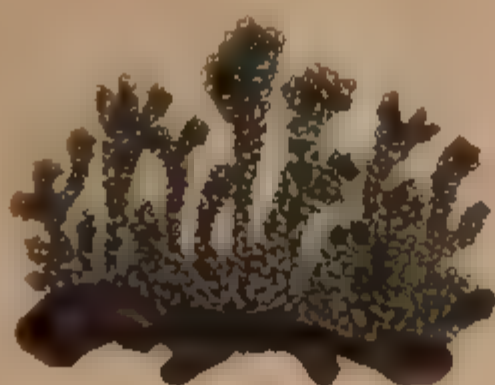
SPEC. CHAR. Cartilaginous, brittle, ash-coloured. Stems cylindrical, rough and leafy. Cups turbinate, closed; at length dilated and radiated. Tubercles marginal, sessile or stalked, brownish-black. Leaves imbricated, crenate, minute.**SYN.** *Lichen pyxidatus* a. *Huds.* 554.*Discomyces anomæus.* *Ach. Meth.* 549.*Cistelloides parva ramorum, tuberculis fuscis.* *Dill.*
Musc. 97. t. 15. f. 20.

DILLÉNUS gathered this on Woolwich heath. We found it on the Pentlands hills near Edinburgh in 1762, and determined its structure, but it is not to be found in Lightfoot. Mr. R. Turner took the specimens in our plate from the old stack of Mr. Crowe's barn at Lakenham, in March 1805.

The lower part of the cup is elegant and disorderly of the cup



1867



For a view of the whole of the collection, see the Catalogue





LICHEN bellidiflorus. *Daisy-flowered Cup Lichen.*

CRYPTOGAMA Agn.

CEIA. Male, scattered warts.

Female, smooth shields or tubercles, in which the seeds are imbedded.

CEIA. Cartilaginous, pale green. Stems cylindrical, rough and leafy. Cups clubshaped, closed. Tubercles marginal, globose, minute, crowded, scarlet. Leaves imbricated, angular, crenate, minute.

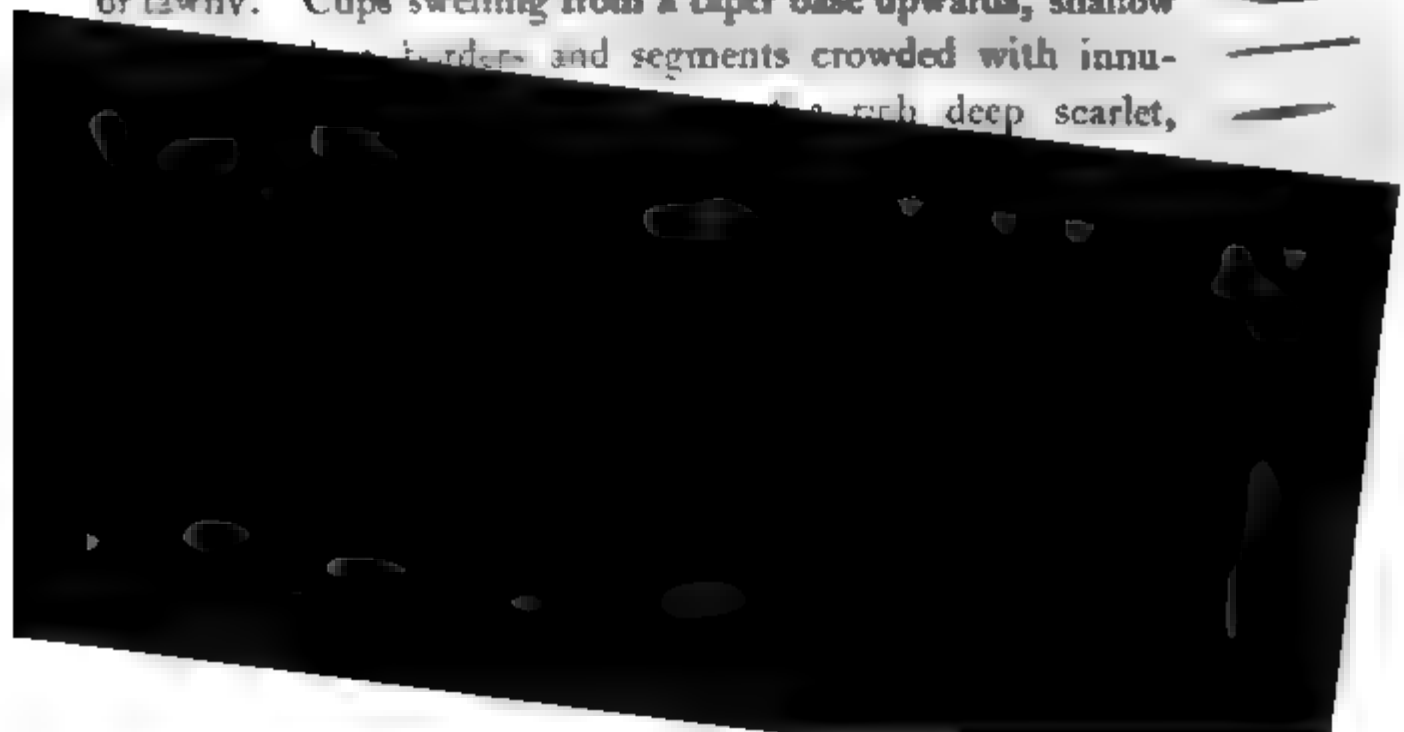
N. Lichen bellidiflorus. *Ach. Prod.* 194.

Bacomyces bellidiflorus. *Ach. Meth.* 335.

THIS most elegant species was discovered last summer on the high mountain of Ben Nevis in Scotland, by Mr. Turner and Mr. W. J. Hooker. We had long ago received the same from the coast of Labrador, and from Professor Acharius, the only writer who has described it.

The crust is composed of numerous, small, lax, angular leaves, crenate and acutely lobed, of a light bright green, not grey or glaucous. Stems numerous, upright, various in height, cylindrical, unbranched except at the summit, clothed with small scaly foliage; the base slender, and more or less orange or tawny. Cups swelling from a taper base upwards, shallow

the borders and segments crowded with innumerable seeds of a rich deep scarlet,



1891



Polypodium vulgare L.



7

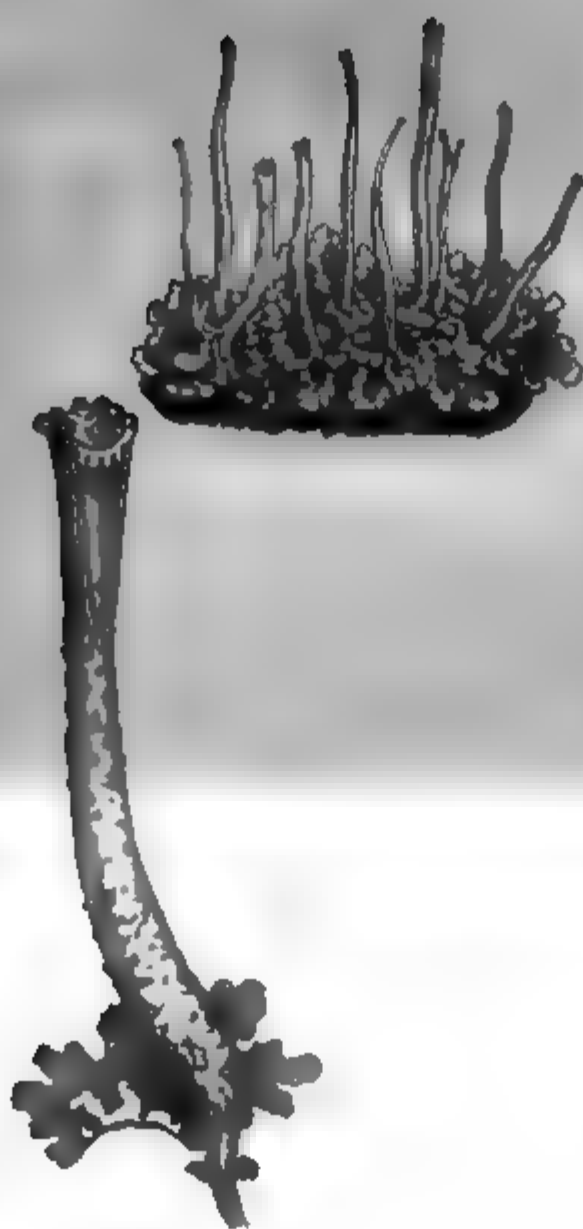
LICHEN filiformis.
Thread-shaped Cup Lichen.

CRYPTOGAMIA Alga.

- GEN. CHAR.** Male, scattered warts.
 Female, smooth shields or tubercles, in which the seeds are imbedded.
- SPEC. CHAR.** Obscurely cup-shaped, cartilaginous greenish white. Leaves imbricated, sinuated and crenate. Stalks cylindrical, simple, scaly. Cups cylindrical, bordered with minute scarlet tubercles.
- SYN.** *Lichen filiformis.* *Ach. Prod.* 193. *With.* v. 4. 38. *Hall.* 303. *Relh.* 470. *Sibth.* 333. *Abbot.* 268.
- L. pyxidatus* ζ , *filiformis.* *Huds.* 552.
- L. tubiformis.* *Lightf.* 871.
- Lichenoides tubulosum pyxidatum exiguum fusco-virens.* *Raii Syn.* 70.
- Cornuloides acyphis gracilibus tubiformibus, pedicularis folio.* *Dill. Musc.* 85. t. 14. f. 10.
- Bacomyces bacillaris.* *Ach. Meth.* 329.

A NATIVE of mountainous turfy heaths. We have ga-





Junus s. acro. pubes. sub l. g. J. Senecioides. Longdon.



[1836]

LICHEN cornutus.
Horned Cup Lichen.

CRYPTOGAMIA Alga.

GEN. CHAR. Male, scattered warts.

Female, smooth shields or tubercles, in which the seeds are imbedded.

SPEC. CHAR. Obscurely cup shaped, cartilaginous greyish greenish white, with numerous awl-shaped barren branches. Cups cylindrical, bearing scarious tubercles.

SYN. *Lichen cornutus. Linn. Sp. Pl. 1620. Ach. Prod. 192. Willd. t. 4. 39. Hull. 304. Relh. 470. Sibth. 333. Atroc. 269. Lightf. 875.*

L. pyxidatus L. *Hedw. 553.*

Becomyces cornutus. Ach. Meth. 343.

Coralloides vix ramosum, scyphis obscuris. Dill. Musc. 90. t. 15. f. 14, A, C, F.

Lichencides tubulosum cinereum non ramosum. Raii Syn. 68.

FOUND in woody or heathy, rather mountainous, places. The crust consists of little round lobed leaves, like those of *L. radiatus*, but somewhat of a more grey hue, as indeed is the whole plant. The stalks are from one to two inches, or



1836



See also Plate 10, fig. 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100





LICHEN gracilis.
Slender Cup Lichen.

CRYPTOGAMIA Algæ.

GEN. CHAR. Male scattered warts.

Female, smooth shields or tubercles, in which seeds are imbedded.

SPEC. CHAR. Cup-shaped, long, slender, smooth, cartilaginous, greenish brown, at length somewhat branched. Cups conical, sharply toothed. Tubercles brown. Leaves minute.

SYN. Lichen gracilis. *Linn. Sp. Pl.* 1619. *Prod.* 191. *With.* v. 4. 37. *Hull.* 303. *Lightf.* 8

L. pyxidatus w. *Huds.* 555.

Bæomyces gracilis. *Ach. Meth.* 344.

Coralloides scyphiforme serratum elatius, caulibus ciliis glabris. *Dill. Musc.* 88. t. 14. f. 13.

TO determine the species among the Cup-bearing Lichen is one of the most difficult problems in botany. Mr. Hudcutt cuts the Gordian knot by uniting them all into one, but surely nothing can be more rash. On the other hand, it may perhaps be allowed that other botanists have subdivided them beyond the limits of Nature. If any of them be distinct species, there is in our plate is one. It grows in mountainous heathy or woody places, nor is it in the northern counties unfrequently bearing fruit at all seasons.

The leaves, which form a kind of crust, are minute, long and crenate. Stems round, hollow, long and slender, more or less very smooth, olive-coloured, brown upwards, when branched sharp-pointed, but generally terminating in small, conical brown cups, sharply and irregularly toothed at their edges, there studded with little, round, smooth, chesnut-coloured tubercles. The margins of these cups are at length proferrous, and sometimes the main stem itself is divided.



Cladophora



[1835]

LICHEN radiatus.
Radiated Cup Lichen.

CRYPTOGAMIA Alga.

GEN. CHAR. Male, scattered warts.

Femine, smooth shields or tubercles, in which
seeds are imbedded.

SPEC. CHAR. Cup-shaped, somewhat cartilagi-
greenish white. Stalks elongated, slender, pow-
Cups irregularly radiated, their points tipped
small acute reddish tubercles.

SYN. *Lichen radiatus*. Schreb. *Lips.* 122. *Ach.* .

130. *Wet.* t. 4. 33. *Hall.* 303. *Sibth.* 3

L. proximus p. *Hed.* 555.

Bismarckia radiatus. *Ach. Meth.* 342.

Coralinae scyphi-forme conutum. *Dill. Musc.*

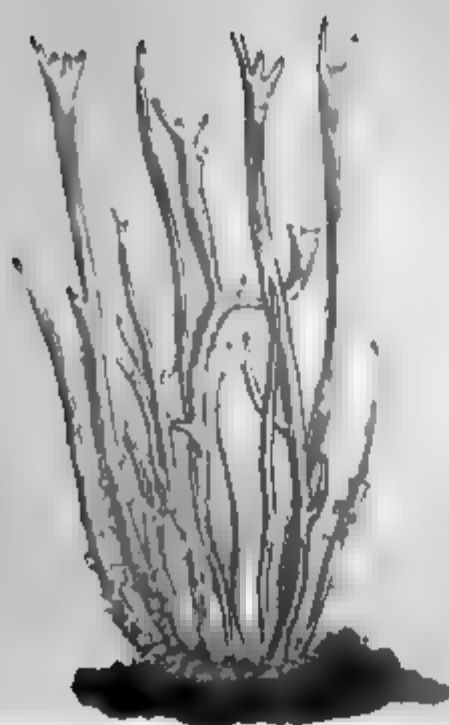
2. 15. 16.

COMMUNICATED from Norfolk by Mr. Turner. It is

commonly found on rocks. The crust consists of



1835



Printed and Published by J. G. Sowerby London



7

LICHEN sparassus.

Torn-coated Cup Lichen.

CRYPTOGAMIA *Algæ.*

GEN. CHAR. Male, scattered warts.

Female, smooth shields or tubercles, in which the seeds are imbedded.

SPEC. CHAR. Fronds cartilaginous, minute, lobed and cut. Stems cylindrical, repeatedly branched, rigid, ash-coloured, rough with innumerable scaly leaflets. Cups minute, toothed, pervious repeatedly proliferous from their margins. Tubercles clustered, brown.

SYN. *Bæomyces sparassus.* Ach. *Meth.* 346.

GATHERED in mossy woods at Hafod, Cardiganshire, in 1797. It is perhaps not uncommon in such places. Our specimens agree with some from Acharius.

The original foliage is minute and evanescent, lobed and cut, green above, white beneath, but the whole surface of the stems is nearly clothed with similar leaflets, having a scurfy or scaly appearance, and where naked seeming as if it had been plucked bare. The stems form large tufts, adhering to each other and to the surrounding moss or grass, so as to break when gathered, especially if tender from wet. They are about two inches high, tubular, thin, erect, repeatedly branched, rigid though brittle, cracked or perforated above the origin of every branch, and ending in very small, compound, irregular, toothed or forked cups, whose centre is also pervious. Innumerable little brown crowded tubercles terminate the points or teeth of the cups.—Acharius considers the *L. ventricosus* of Hudson, and of his own *Prodromus*, p. 189, Dill. t. 15. f. 17, as a variety of this. Indeed there seems to be but a shade of difference between them.

2162



See 1. on p. 100 of the 1st London Edition.



[1394]

LICHEN deformis.

Chussy Indented Cup Lichen.

CRYPTOGAMIA Alga.

GREX. CHAR. Male, scattered warts.

FEMIN. smooth shields or tubercles, in which the
males are imbedded.

SPERM. CHAR. Lethery, pale yellowish grey. Stems
minute, thick, mostly simple. Cups small, irre-
gular, sharply toothed. Tubercles scarlet, minute.
Leaves roundly lobed.

SEX. Lichen deformis. *Linn. Sp. Pl.* 1620. *Fl. Lapp.*
n. 433. *t.* 11. *f.* 5. *Achar. Prod.* 189. *With.*
t. 4. 35. *Hall.* 303. *Lightf.* 876. *Relh.* 470.

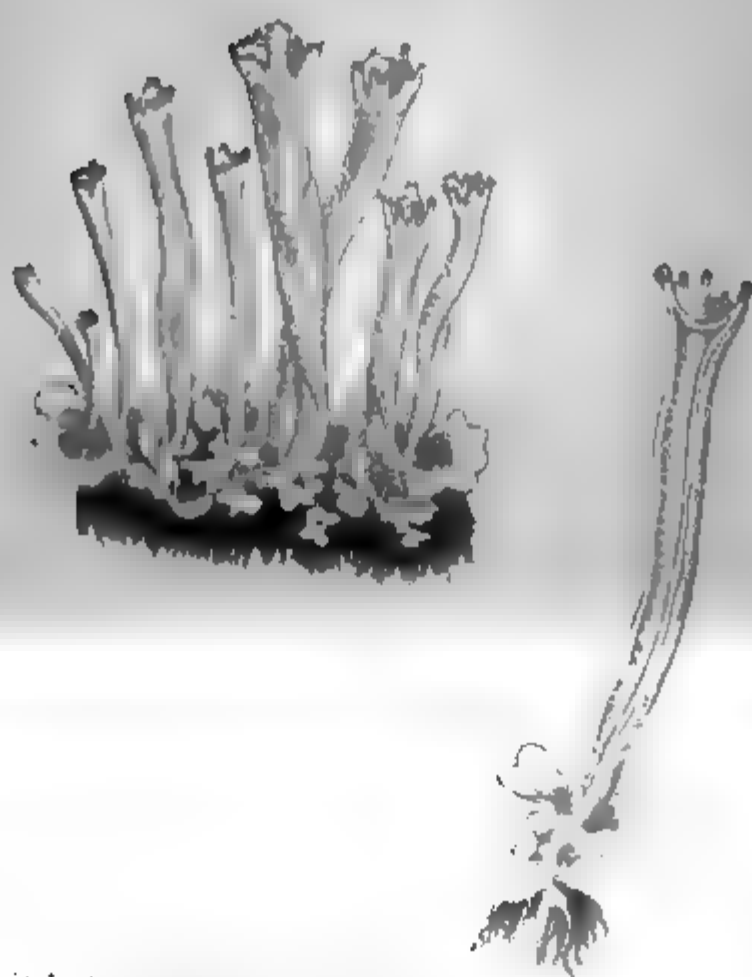
L. verrucosus *L. Hall.* 554.

Lichenoides tubulosum minus ramosum, cauliculis
crassiusculis deformibus. Kütz Syn. 68.

Baccarves deformis. Achar. Meth. 334.

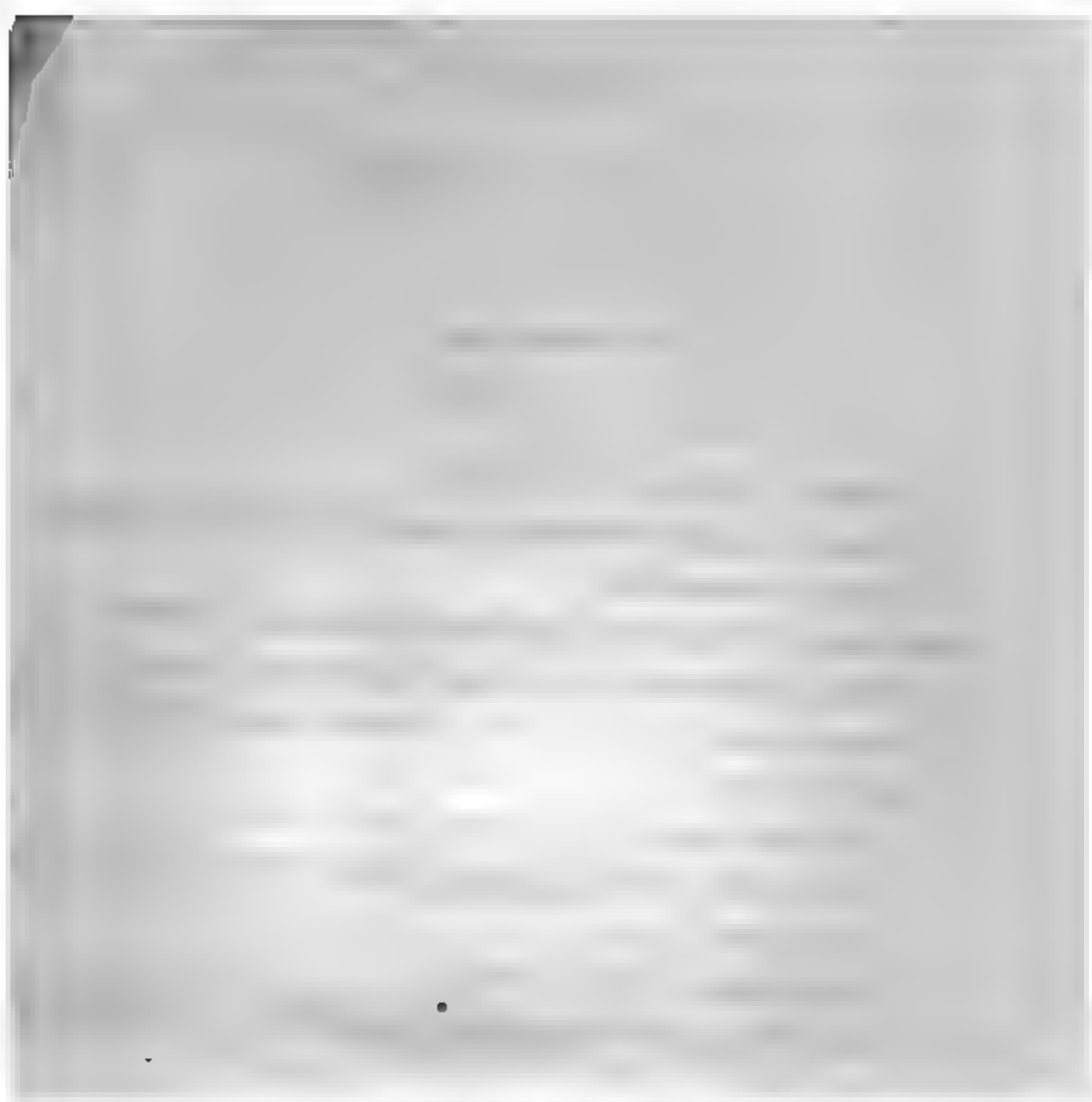
Coralloides crassius subincanum, calicibus dentatis.
Dill. Musc. 95. *t.* 15. *f.* 18.

1294



Asplenium adnigrum L.

1



LICHEN digitatus.

Fingered Cup Lichen.

CRYPTOGAMIA Algæ.

GEN. CHAR. Male, scattered warts.

Female, smooth shields or tubercles, in which the seeds are imbedded,

SPEC. CHAR. Obscurely cup-shaped, pale grey, mealy. Stalks subdivided, digitate and radiating. Tubercles terminal, deep scarlet. Leaves minute, lobed and crenate.

SYN. Lichen digitatus. *Linn. Sp. Pl.* 1620. *Ach. Prod.* 188. *With. v. 4.* 39. *Hull* 304. *Lightf.* 874. *Retz.* 469.

L. pyxidatus ξ . *Huds.* 554.

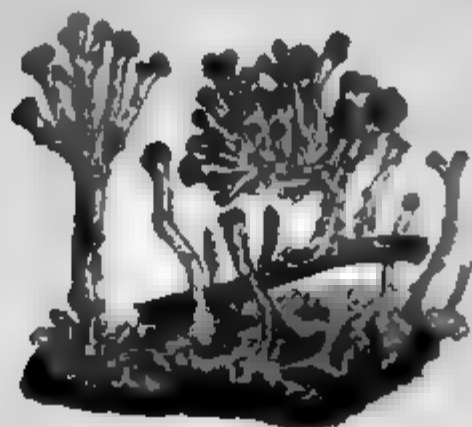
Lichenoides coralliforme, apicibus coccineis. *Raii Syn.* 68.

Bæomyces digitatus. *Ach. Meth.* 333.

Coralloides ramulosum, tuberculis coccineis. *Dill. Musc.* 96. *t.* 15. *f.* 19.

ONE of the most beautiful of its family, found on rotten trees, or on the ground, in mountainous places, but not frequently. The late Mr. J. Burgess Mac-Garroch gathered our specimens near Kirkmichael, Dumfries-shire. The present plant is considered as nearly related to *L. cocciferus*, *t.* 2051, but differs in having scarcely any form of a cup, but in its stead numerous branches spring from one centre, each being either simple or divided, and tipped with a tubercle of a rich deep scarlet, that elegantly contrasts with the grey mealiness of the stalks and finely divided foliage.

2439



Polypodium vulgare L.





LIGHT ~~ON~~

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~~These~~ ~~have been made~~ ~~in~~ ~~the~~ ~~process~~, in which the
~~has been~~

~~The above~~ ~~is~~ ~~a~~ ~~very~~ ~~fine~~ ~~specimen~~, ~~the~~ ~~greenish-grey,~~
~~the~~ ~~more~~ ~~succulent~~ ~~method.~~ To-
~~ward~~ ~~upper~~ ~~side~~ ~~leaves~~ ~~sessile,~~ lobed and
~~the~~

25. ~~James Buchanan~~ Jan 5 P. 1618. Ach.
 26. ~~John W. Brown~~ Feb 10 1844. Relk.
 27. ~~John W. Brown~~ Mar 10 1844. Chron. Crypt. 168.
 28. ~~John W. Brown~~ Jan 10 1844.

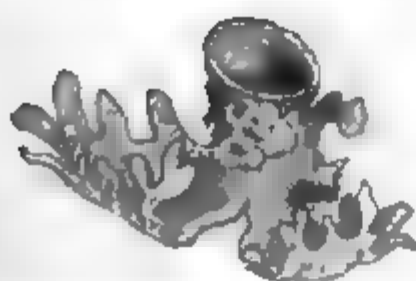
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... ..



202



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LICHEN fimbriatus.

Fringed Cup Lichen.

CRYPTOGAMIA Alga.

SEX. CHAR. Male, scattered warts.

Female, smooth shields or tubercles, in which the seeds are imbedded.

SEX. CHAR. Cup-shaped. Leaves cartilaginous, lobed and crenate. Stalks cylindrical, white, dilated at the summit into an impervious cup, fringed with acute teeth, tipped with small brown tubercles.

SEX. Lichen fimbriatus. *Lin.* *Sp. Pl.* 1619. *Ach.* *Prod.* 187. *With.* *z.* 4. 37. *Hull* 303. *Lightf.* *Ser.* *Reb.* 469. *Sach.* 332. *Abbot.* 268.

L. pyxidatus L. *Huds.* 352.

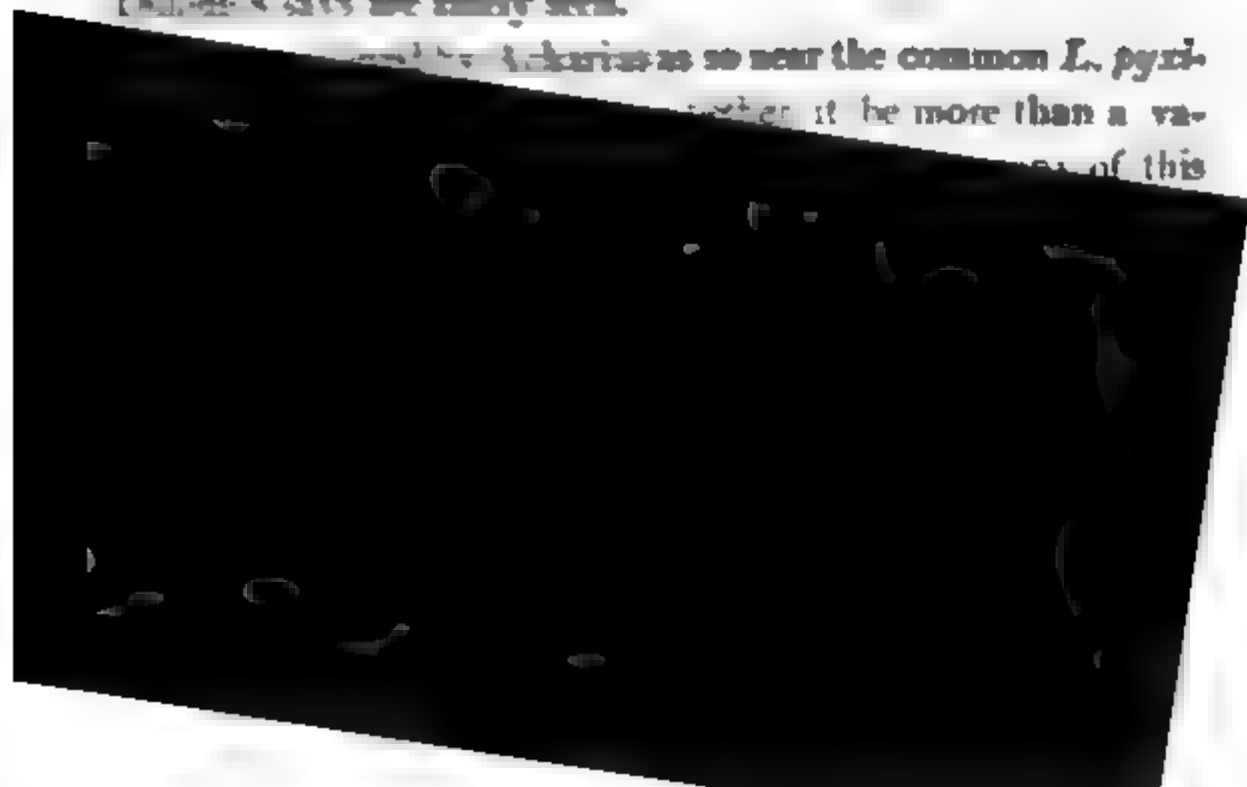
Lichenoides tubulosum pyxidatum, marginibus serratis. *Dill.* in *Ram.* *Syn.* 69.

Descurvies fimbriatus. *Ach. Meth.* 341.

Coralloides scyphaeformae gracile, marginibus serratis. *Dill. Musc.* 54. t. 14. f. 8.

THIS grows on the ground in heathy mountainous places. We have gathered it near Edinburgh, bearing tubercles, which *Dill.* says are rarely seen.

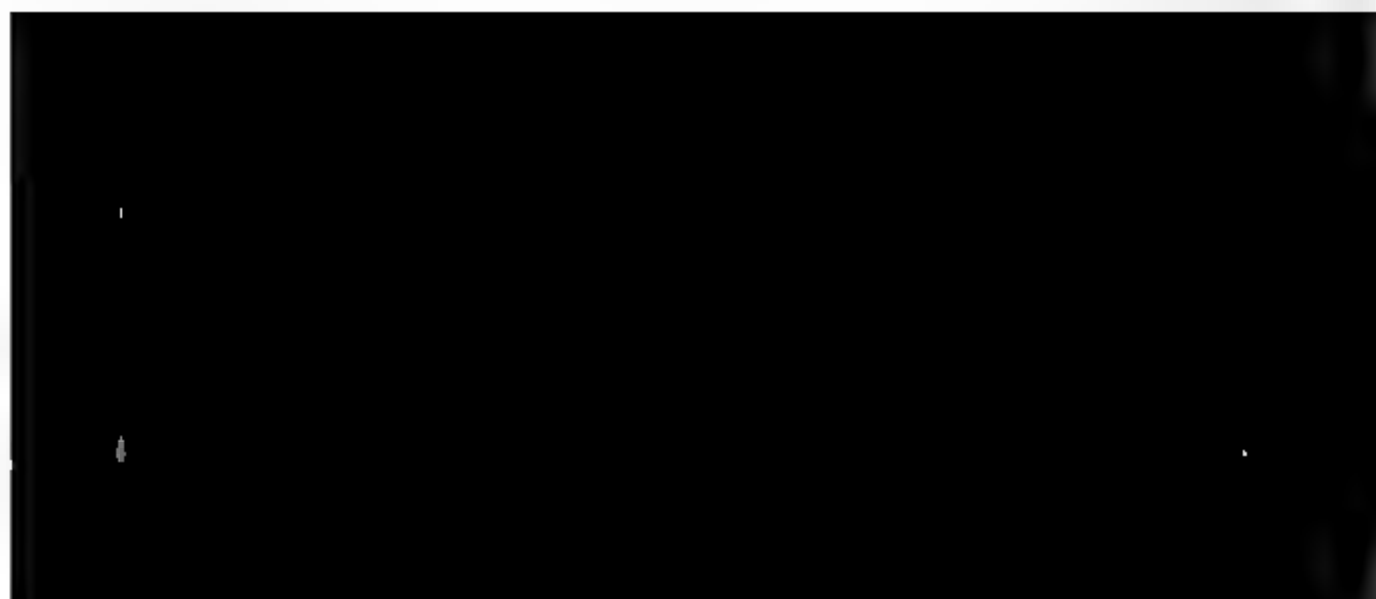
It is so near the common *L. pyxidatus* that it be more than a variety of this.



2430



*Fig. 2430. *Hydractinia* sp.*





[1993]

LICHEN pyxidatus.

Common Cup Lichen.

CRYPTOGAMIA Alge.

GEN. CHAR. Male, scattered warts.

Female, smooth shields or tubercles, in which the male
warts are imbedded.

SPEC. CHAR. Cap-shaped, leathery, greyish-green, scaly,
often profliferous. Cups dilated, nearly entire.
Tubercles brown. Leaves minutes, imbricated, cre-
scen-
tine.

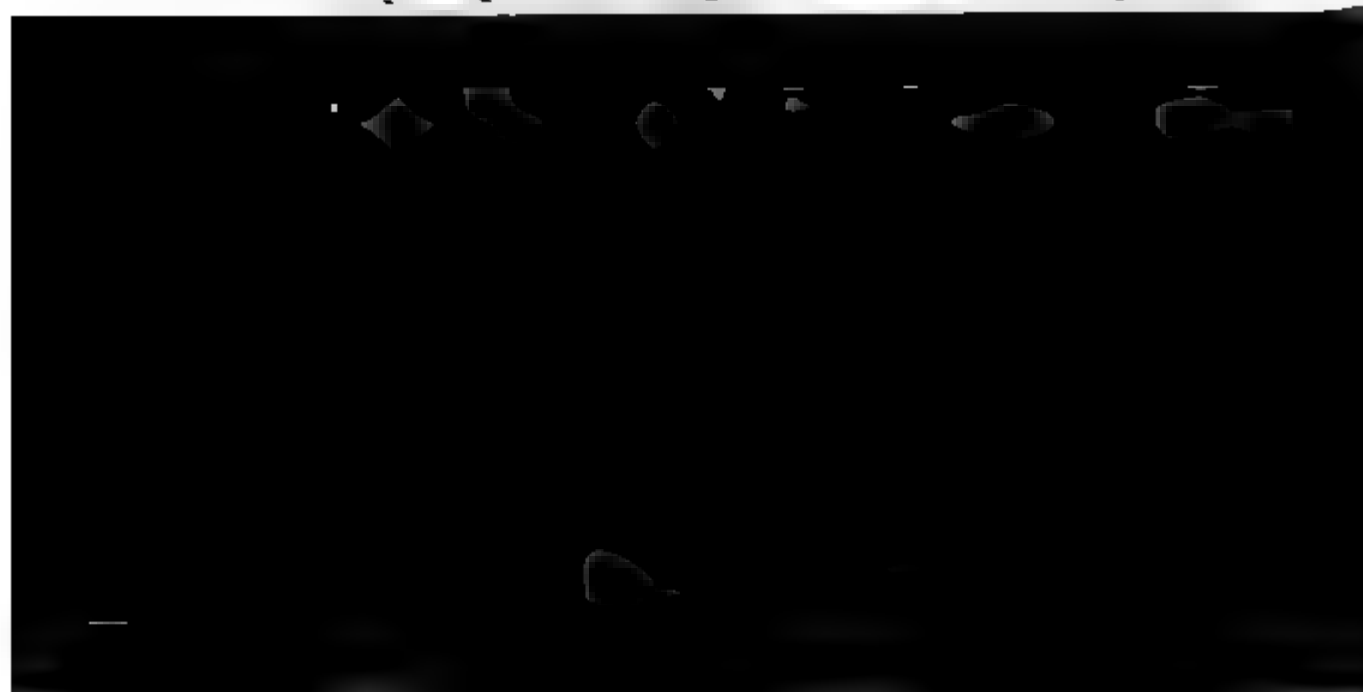
SEX. Lichen pyxidatus. *Lin. Sp. Pl.* 1619. *Achar.*
Prod. 186. *Huds.* 551. α — γ . *With.* v. 4. 36.
Hall. 303. *Relh.* 469. *Silv.* 332. *Abbot.* 268.
n. 300 and 301.

Lichenoides tubulosum pyxidatum cinereum. *Raii Syn.*
68.

Desmaz. *pyxidatus.* *Achar. Meth.* 337.

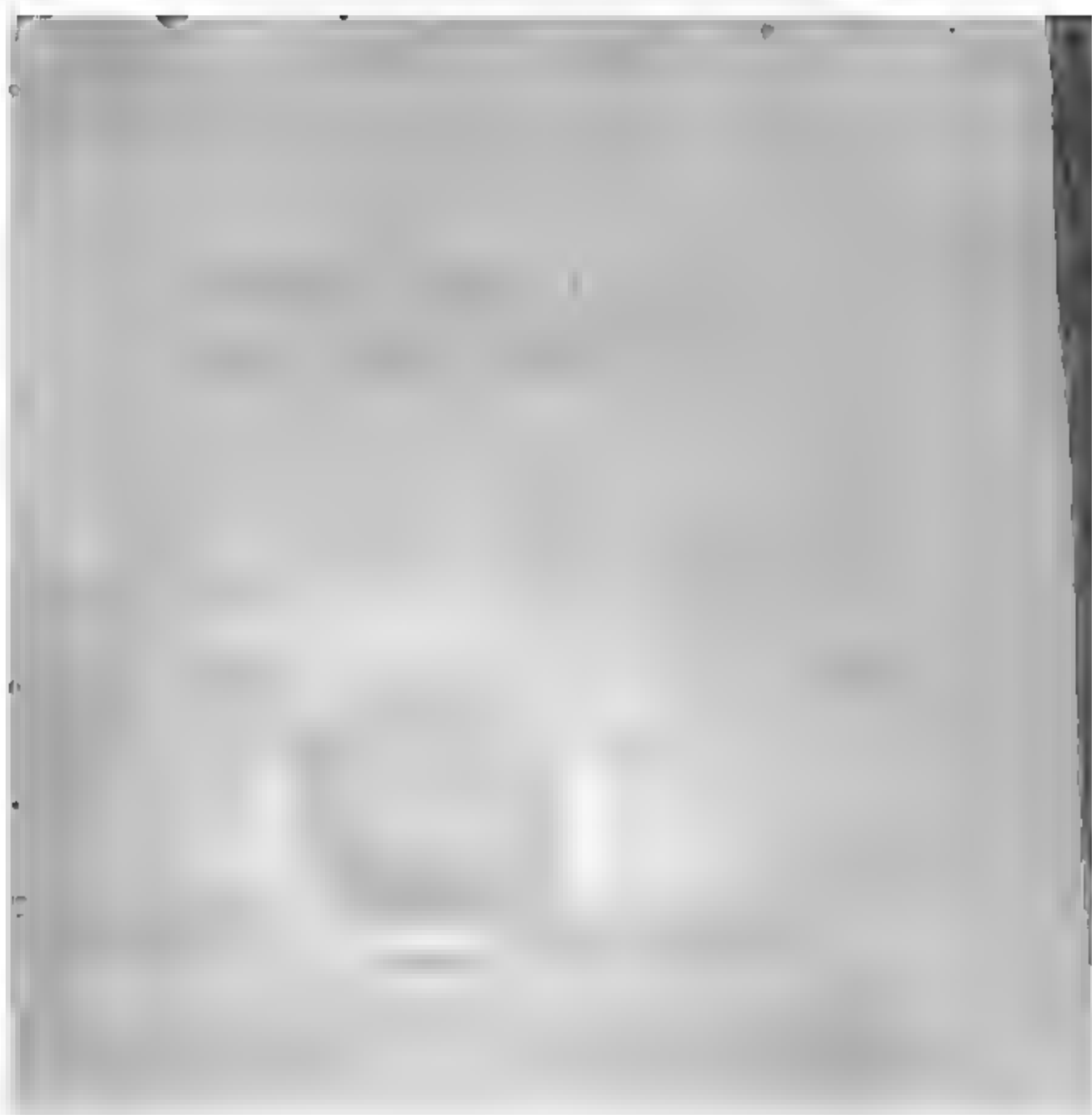
Caulioides scyphiforme, tuberculis fuscis. *Dill. Musc.*
Tab. 2. 14. f. 6.

THIS most common kind of cap-bearing Lichen is generally
called Cup-Moss, under which name it is famous as a cure for
the hardest cough. Nothing can be more easily procured.





Ascioglyphus *Ascioglyphus* *Ascioglyphus*



LICHEN rubiformis.
Raspberry-fruited Lichen.

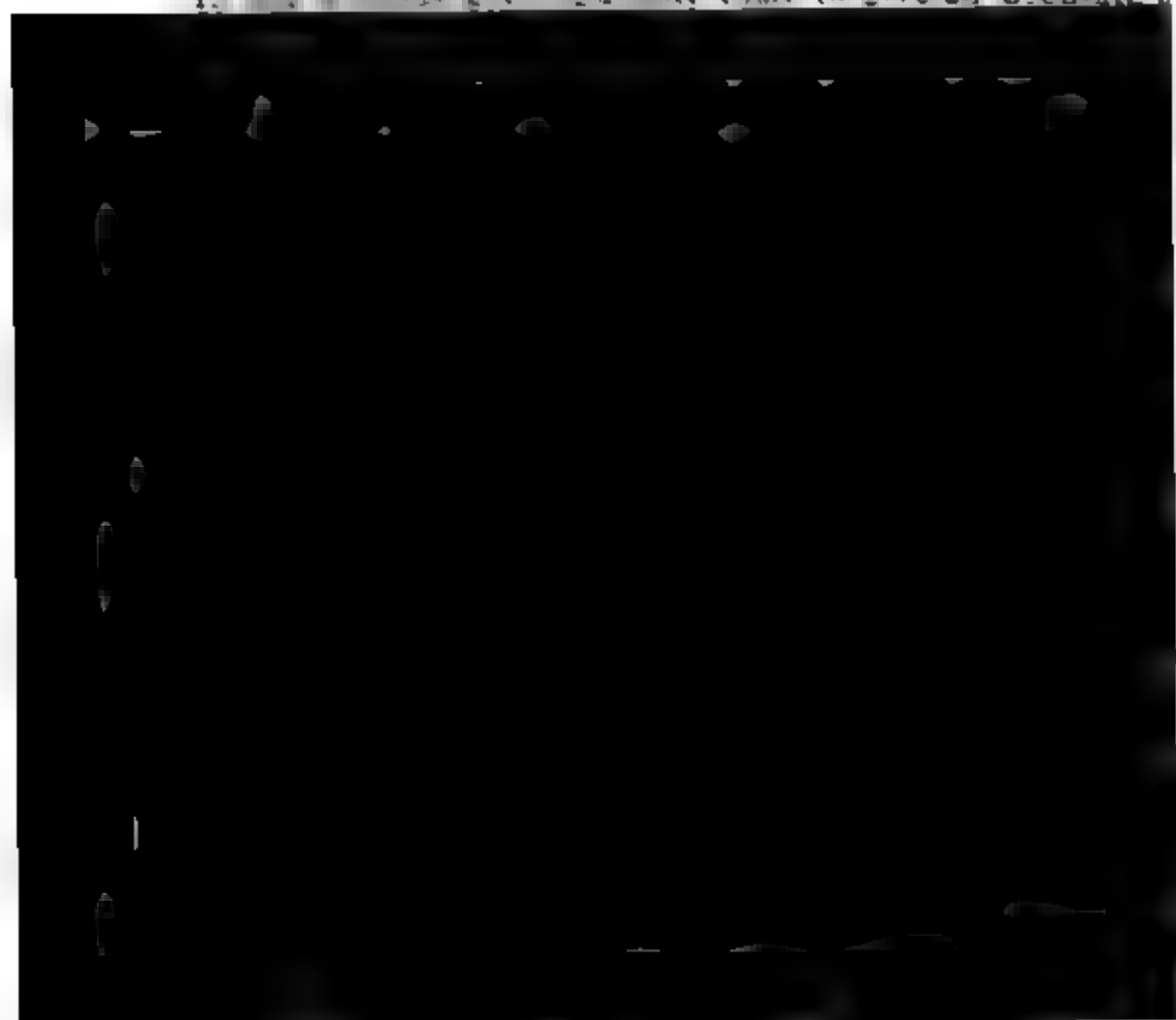
CRYPTOGAMIA Alga.

GEN. CHAR. Male, scattered warts.
 Female, smooth shields or tubercles, in which seeds are imbedded.

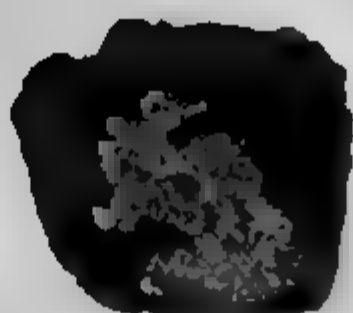
SPEC. CHAR. Fronds depressed, somewhat crustaceous, rounded, lobed, crenate, light green; thick and pale at the margin; white beneath. Tubes on the disk, clustered, sessile, minute, globular, hollow, red.

SYN. *Baeomyces rubiformis.* *Ach. Meth.* 324. t. 7.

WELL might even the experienced Dr. Acharius have been at a loss how to dispose of this singular production, which his friend Wahlenberg brought him from the north of Norway, and which I received a solitary specimen long ago from my late correspondent Mr. W. Brunton, who found it near Ripon, Yorkshire. We can hardly render a more acceptable service to the cause of botany, than to give an accurate description of it.



212



This was published by P. S. Savory, London.

L I C H E N *cervicornis*.*Buck's-horn Cup Lichen.**CRYPTOGAMIA Algae.***GEN. CHAR.** Male, scattered warts.

Female, smooth shields or tubercles, in which the seeds are imbedded.

SPEC. CHAR. Cup-shaped, cartilaginous, branched.

Leaves nearly upright, glaucous, in oblong segments. Cups from the disk of the leaves, turbinate, at length proliferous, on slender stalks. Tubercles numerous, marginal, sessile, blackish.

SYN. *Lichen cervicornis*. *Achar. Prod.* 184.*Baeomyces cervicornis*. *Achar. Meth.* 336. *Winch.* v. 2. 65.

WE gathered fine specimens of this elegant Lichen on the Pentland hills, near Edinburgh, in 1782. The plant was then confounded with the *alcicornis*, t. 1392, from which Acharius justly distinguished it. The base is sometimes absolutely shrubby; the whole plant rigid, though the leaves are brittle when dry; the oblong form of their crenate segments, and their glaucous hue, are peculiar, and they very generally assume a brown tinge. The cups grow abundantly, on slender cylindrical stalks, from the disks of the leaves, and are distinctly formed, slightly leafy, more or less proliferous, bordered with numerous, small, sessile, uniform tubercles, of a dark blackish brown.

This species has been observed by Mr. W. Borrer in various mountainous parts of England, Scotland, and Ireland, and we are indebted to him for our specimen here represented, which agrees with some from Acharius.





2574



L.

[1892]

LICHEN alcicornis.*Elk's-horn Cup Lichen.*

CRYPTOGAMIA *Algo.***GEN. CHAR.** Male, scattered warts.

Female, smooth shields or tubercles, in which the seeds are imbedded.

SPEC. CHAR. Obscurely cup-shaped, green, cartilaginous, at length branched, all over leafy. Lower leaves erect, dilated, lobed. Tubercles numerous, terminal, minute, brown.**SYN.** *Lichen alcicornis.* *Achar. Prod.* 184. *Lightf.* 872. *Relh.* 468. *Abbot.* 269.*L. foliaceus.* *With. v. 4.* 35. *Hull.* 302.*L. pyxidatus* *θ.* *Huds.* 552.*Bæomyces alcicornis.* *Achar. Meth.* 349.*Coralloides scyphiforme, foliis alcicorniformibus cartilaginosis.* *Dill. Musc.* 87. t. 14. f. 12.

FOUND frequently on mountainous barren heathy dry places, being in the greatest perfection in the moist weather of



1. The first part of the document is a list of names and addresses of the members of the committee.

L I C H E N *Bæomyces*.*Pink Mushroom Lichen.*CRYPTOGAMIA *Algæ*.

GEN. CHAR. Male, scattered warts.

Female, smooth shields or tubercles, in which the seeds are imbedded.

SPEC. CHAR. Crust leprous, granulated, greenish white. Tubercles on footstalks, tumid, lobed, flesh-coloured.

SYN. Lichen *Bæomyces*. Linn. *Suppl.* 450. Retz. *Scand.* 273. Sibth. *Ox.* 321.

L. ericetorum. Web. *Gott.* 195. & *Lightf. Scot.* 809. *With. Bot. Arr.* v. 3. 167.

L. fungoides. Swartz. *Ind. Occ.* 146. Gmel. *Syst. Nat.* 1357.

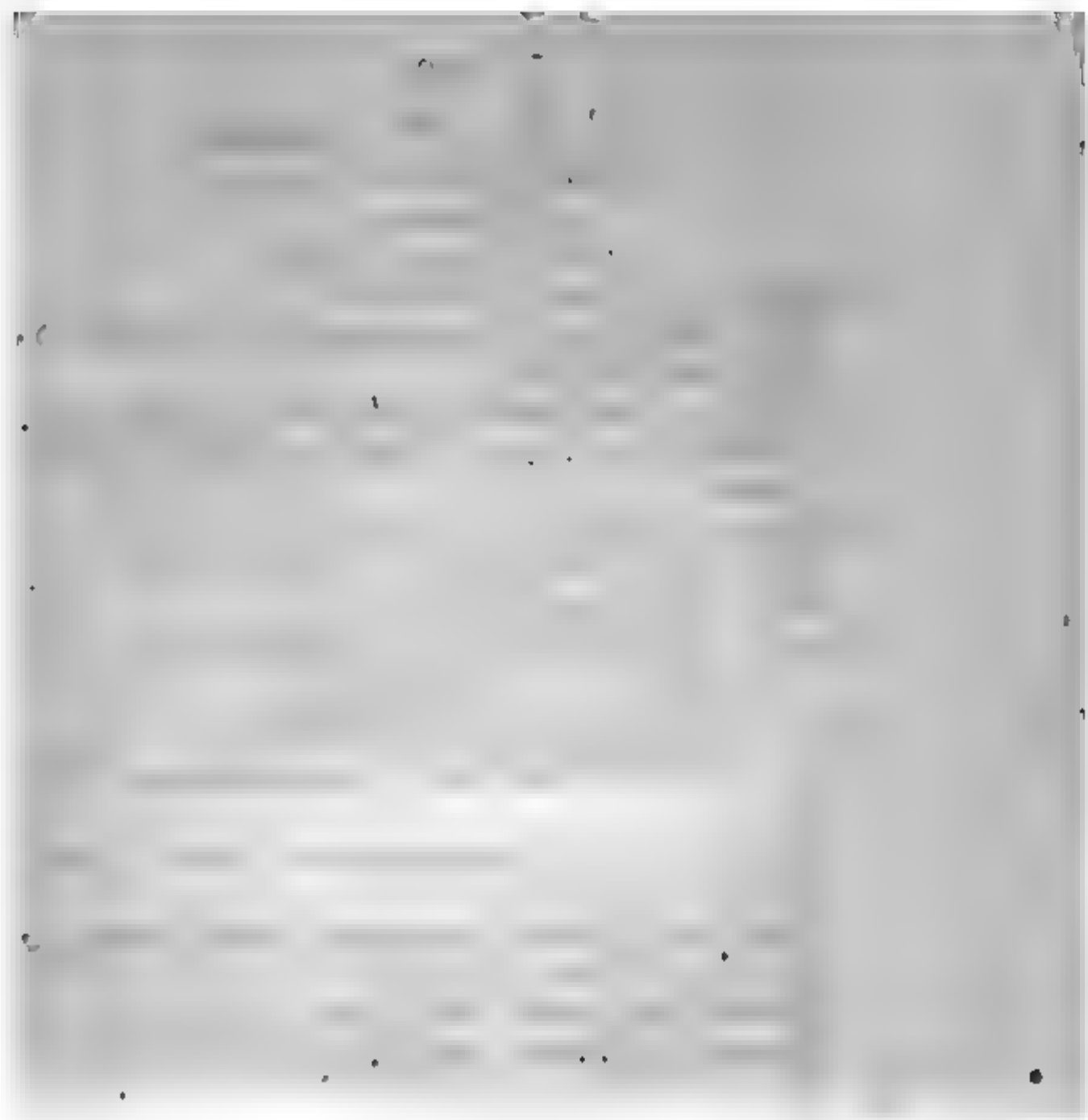
Lichenoides fungiforme, *crusta leprosa candida*, "capitulis & pediculis incarnatis. Raii *Syn.* 70.

Coralloides fungiforme carneum, *basi leprosa*. Dill. *Musc.* 76. t. 14. f. 1.

THIS very elegant species is much more rare than the two last described. Dr. Smith found it on a mountainous heath in Montgomeryshire, and it is said to grow in Scotland and the north of England. Dillenius says, no one had found this Lichen in England except Dr. Richardson. Mr. Lightfoot was evidently acquainted with it; but whether any other British writer has seen it, or merely copied it from Dillenius, may be doubted. It is certainly distinct enough from the original *ericetorum* of Linnæus, see our *tab.* 372, indeed much more so, as Lightfoot observes, than from the *byssoides*, t. 373. The crusts of all these are nearly alike; green or greyish when young, and in moist weather; white when old and dry. Their surface granulated and tuberculated, not powdery. But the beautiful pink-coloured fructification of *L. Bæomyces* clearly distinguishes it, being so different in hue from that of the *byssoides*, and also much larger, more lobed, and variously formed. The colour of its tubercles is similar to the flat shields of the *ericetorum*, but more vivid, of a wax-like hue, not scarlet as in *L. cocciferus*. These tubercles are spongy within. Their stalks whitish, compressed and furrowed, so that they might easily be taken for a little species of *Helvella*, were it not for the crust out of which they grow, their firm and durable texture, and want of a fungous smell.







[573]
LICHEN *bryonides*.
Bryon Maximum Lichen.

CRYPTOGAMA Agar.

Gen. Char. *Mass.* *ramulosa* *verruca*.

Fusile, siccis stictis et subscis, in which the seeds are imbedded.

Sp. Char. *Cum* *aperta*, *granulata*, *greenish white*.
Truncis et *in-stictis*, *siccis globular*, *reddish brown*.

Sty. *Lichen bryonides*. *Less. Musc.* 133. *Lightf. Scot.* 303. *Hist. F. Fr. 37.* *Wick. Bot. Arr.* t. 3, 65. *Raii Cat. Suppl.* 1. 22.

Lichen. *Hist. F. Fr. 37.* *Wick. Bot. Arr.* t. 3, 71. *Raii Syn.* 274.

L. fungiformis. *Wet. Gott.* 196. *Silb. Oz.* 322.

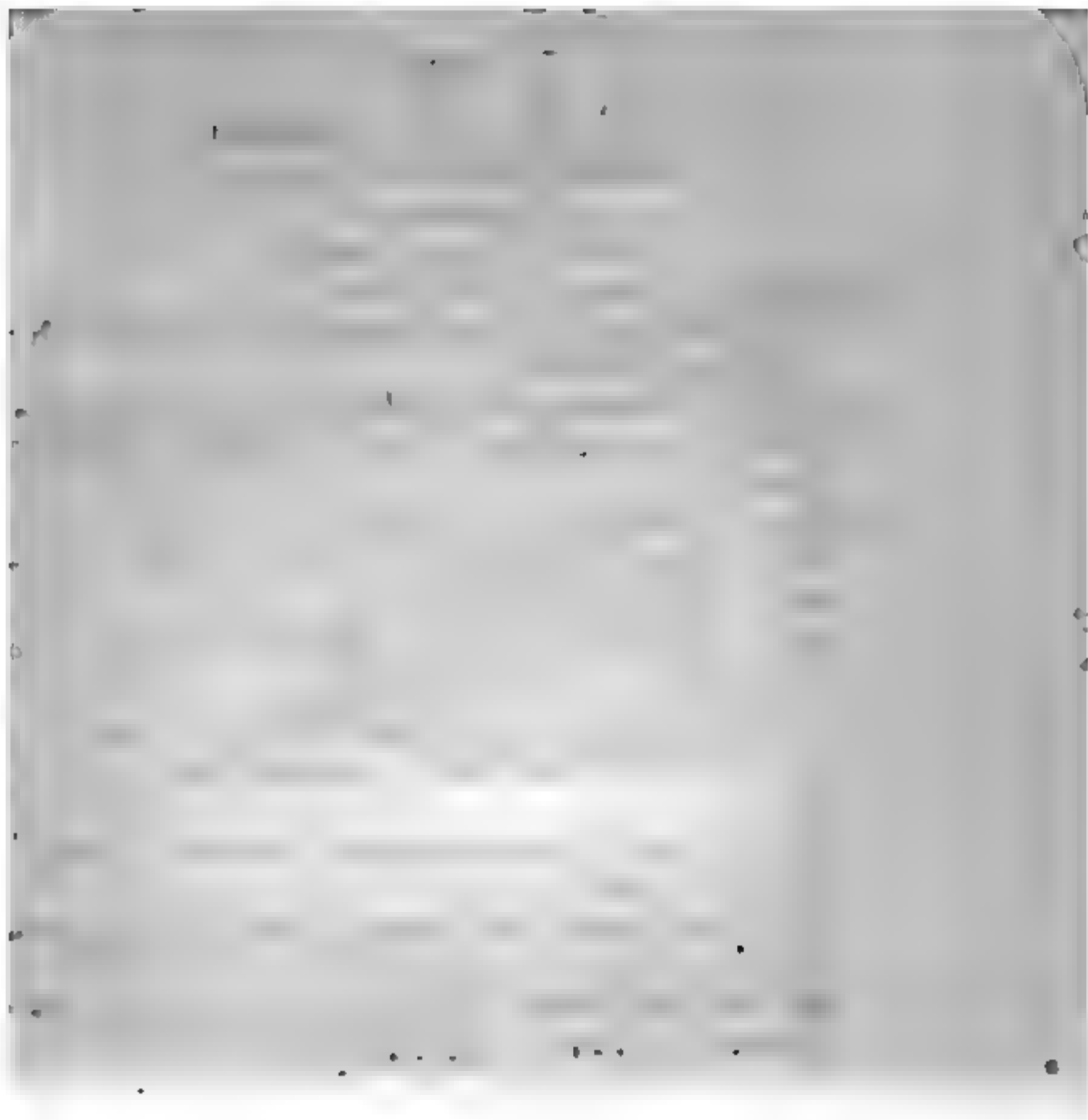
Librarius fungiformis terrestris, capitulis fuscis. *Raii Syn.* 70.

Coalloides fungiformis saxatile, pallide fuscum. *Dill. Musc.* 73. t. 14. f. 4.

Æungi parvi globosi, ex ungue equino putrescente ori. *Raii Syn.* 13. t. 1. f. 4.

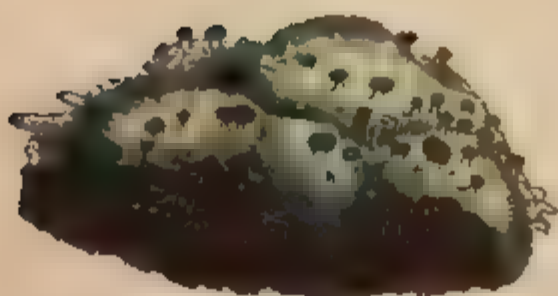
Coalloides fungiformis ex ungula equina livide rubens. *Dill. Musc.* 73. t. 14. f. 5.

THE rest is much like that of the preceding, thinner when it grows on stones than when on the ground, which last is its most general situation. Our specimens came from Epping forest, Essex, and in a moist soil at Glasgow. The suber-



5





1878. 10. 10. 10. 10. 10.

LICHEN paschalis.

Crisp Lichen.

CETPTOGAMIA Alga.

GEN. CHAR. *Misc.*, scattered warts.

Fertile, smooth shields or tubercles, in which the seeds are imbedded.

SPEC. CHAR. Shrubby, solid, clothed with minute crustaceous leaves. Tubercles terminal, prominent.

SYN. *Lichen paschalis.* *Lin. Sp. Pl.* 1621. *Hed. Fl. Ar.* 558. *Wulk. Bot. Arr. v.* 3. 216.

Lichencides non tubulosum cinereum ramosum, totum crustaceum. *Razii Syn.* 66.

Coralloides crispum & botryforme Alpinum. *Dill. Musc.* 114. *t.* 17. *f.* 33.

THIS rare and elegant Lichen grows on the highest mountains of Wales, Westmoreland, and Scotland, chiefly on micaceous rocks. Dr. Smith in his Tour, vol. 2, 113, has shown

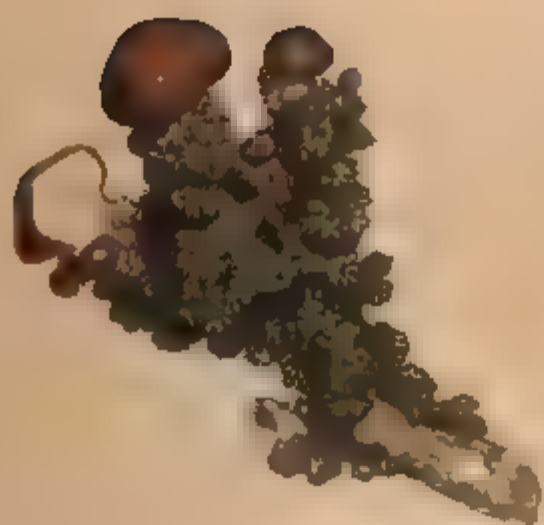
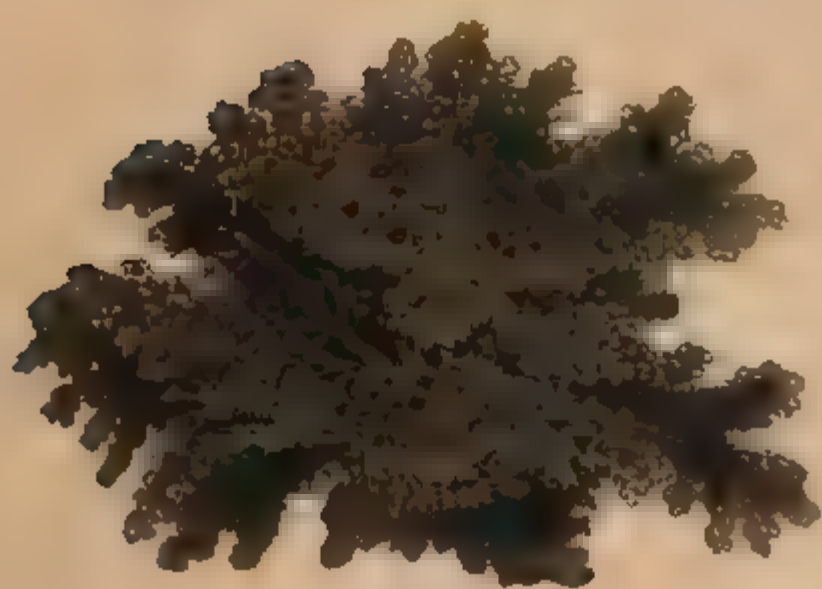






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[2575]

LICHEN confinis.

*Sea-weed Lichen.**CRYPTOGAMIA Algæ.***GEN. CHAR.** Male, scattered warts.

Female, smooth shields or tubercles, in which the seeds are imbedded.

SPEC. CHAR. Shrubby, solid, erect, tufted, branched, olive-black; branches nearly cylindrical, swelling upwards, pitted at the top.**SYN.** Lichen confinis. *Achar. Prod.* 208. *Fl. Dan.* t. 879. f. 2.Stereocaulon? confine. *Achar. Meth.* 317.*Fucus pygmæus* β . *Turn. Hist. Fucor.* v. 4. 17.

SIR THOMAS GAGE, Bart., to whom we are obliged for this remarkable plant, informs us he first received it from Miss Hutchins, but afterwards gathered the same on the inundated rocks of the Kenmare river, Ireland.

It is one of those ambiguous cryptogamic productions whose



2573.



This was published by J. L. L. L. L.

LICHEN fuscellus.
Little Grey Wart Lichen.

CRYPTOGAMIA Algæ.

GEN. CHAR. Male, scattered warts.

Female, smooth shields or tubercles, in which the seeds are imbedded.

SPEC. CHAR. Crust thick, smooth, cracked, grey; black within. Tubercles minute, flat, not prominent, black.

SYN. Lichen fuscellus. *Turn. Tr. of Linn. Soc. v. 7. 90. t. 8. f. 2.*

SENT by Mr. James Turner from Gorlestone church, where it was originally discovered by his brother, whose description may be found in the 7th volume of the Linnean Society's Transactions.

The crust is irregular and indeterminate, a line or more in thickness, growing on calcareous stones, to whose inequalities it conforms, but is otherwise level and smooth, of a pale





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Copy a letter published by the same person

LICHEN Smaragdulus.
Little Emerald Lichen.

CRYPTOGAMIA Algæ.

GEN. CHAR. Male, scattered warts.

Female, smooth shields or tubercles in which the seeds are imbedded.

SPEC. CHAR. Frond simple, depressed, cartilaginous, peltate, roundish, smooth, greenish-yellow, with one root. Tubercles in immersed brown dots.

SYN. *Endocarpon smaragdulum*. *Ach. Meth. Suppl.* 29.

LONG ago sent us from the county of Durham by our worthy friend the Rev. Mr. Harriman, from whom we learn that having sent it to Professor Acharius, he has lately been informed of the above synonym, and that Mr. Wahlenberg had found the same in Norway.

This minute plant is of that tribe of Lichens called by recent botanists *Endocarpon*, which probably will be established in future as a genus. We have described one of the family v. 9. t. 595, which is now *Endocarpon Hedwigii* of Acharius. The present is very distinct, being even more minute than that, closely pressed to the exposed sand-stone on which it grows, and fixed by a central root. The frond is cartilaginous, roundish, sometimes obscurely crenate, smooth, of a yellowish green, occupied by numerous little brown dots, each of which contains an immersed concave tubercle or shield.

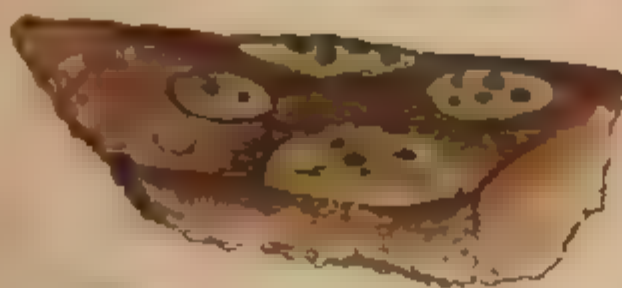
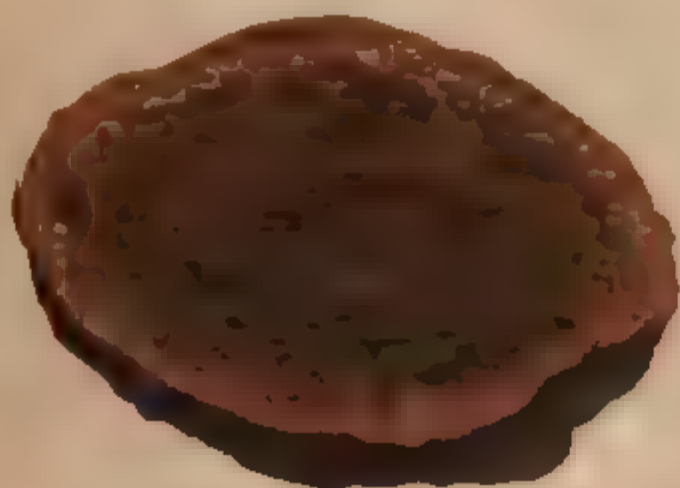


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1. The first part of the document is a list of names and addresses of the members of the committee.



Printed and Published by T. S. Green, London.

[1776]

LICHEN sinopicus.*Sinoper Lichen.*

CRYPTOGAMIA Ag.**GEN. CHAR.** Male, scattered warts.

Female, smooth shields or tubercles, in which the seeds are imbedded.

SPEC. CHAR. Crust rounded, tumid, smooth, tessellated, of a rusty red. Shields minute, sunk, black, depressed in the centre, with an imperfect crenate border of the substance of the crust.**SYN.** *Endocarpon sinopicum.* *Ach. Meth. Suppl.* 90.

FOR this new Lichen we are obliged to Mr. Turner. That gentleman received it from the Rev. Hugh Davies, by whom it was gathered in Anglessea, growing on a piece of yellowish bone schist.

Though small, it is a conspicuous as well as elegant species, forming little rounded tumid smooth patches, a line or more



[1771]

Example 7. 201 194
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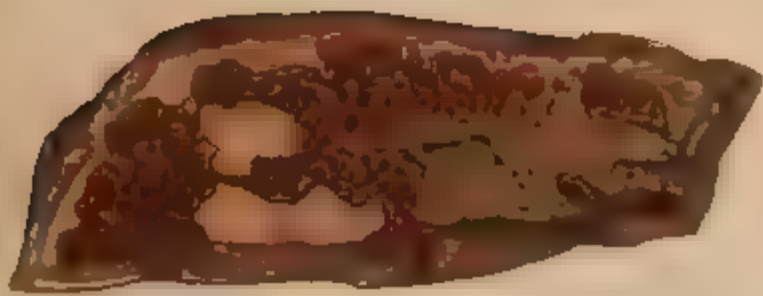
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1776



Small dark object, possibly a fossil or mineral specimen.

[2013]

L I C H E N tephroides.

Ash-coloured Dot Lichen.

*CRYPTOGAMIA Algæ.***GEN. CHAR.** Male, scattered warts.

Female, smooth shields or tubercles, in which the seeds are imbedded.

SPEC. CHAR. Frond crustaceous, depressed, glaucous-ashcoloured, smooth; the circumference wavy and somewhat lobed. Tubercles in immersed coal-black dots, with prominent margins.**SYN.** Lichen tephroides. *Ach. Prod.* 18.Endocarpon tephroides. *Ach. Meth.* 129.

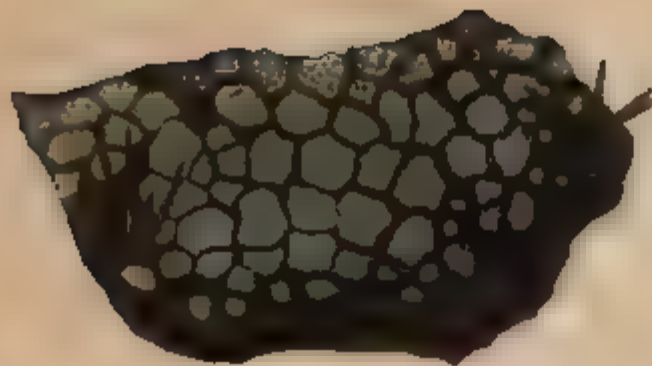
ONE of the new acquisitions of our friends Messrs Borrer and Hooker in their Scottish tour of last summer. It was found on the ground at Burgh Head, in the island of Stronsay, one of the Orkneys.

The fronds are very small, and the black tubercles are





2013



Small, dark, rectangular object with a light-colored, honeycomb-like pattern, possibly a fossil or a piece of wood.

LICHEN trapeziformis.

Quadrangular Lichen.

CRYPTOGAMIA *Alga.*

GEN. CHAR. Male, scattered warts.

Female, smooth shields or tubercles, in which the seeds are imbedded.

SPEC. CHAR. Frond simple, flat, bluntly angular, thickish, smooth, of a dull glaucous green, with many roots. Tubercles in immersed black dots.

SYN. Lichen trapeziformis. *Dicks. Crypt. fasc. 2. 22.*

Witb. ed. 2. v. 3. 201. Hull. Brit. Fl. 296.

L. Endocarpon. *Witb. v. 4. 52.*

FOUND by Mr. Dickson on barren heaths near Croydon, and by Mr. D. Turner in Norfolk. It is scarcely discernible but in wet weather.

The frond is hardly so broad as a shield of the common *L. cartilagineus*, and grows attached by numerous long downy





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1997, 1998, 1999, 2000, 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018, 2019, 2020, 2021, 2022, 2023, 2024, 2025, 2026, 2027, 2028, 2029, 2030, 2031, 2032, 2033, 2034, 2035, 2036, 2037, 2038, 2039, 2040, 2041, 2042, 2043, 2044, 2045, 2046, 2047, 2048, 2049, 2050, 2051, 2052, 2053, 2054, 2055, 2056, 2057, 2058, 2059, 2060, 2061, 2062, 2063, 2064, 2065, 2066, 2067, 2068, 2069, 2070, 2071, 2072, 2073, 2074, 2075, 2076, 2077, 2078, 2079, 2080, 2081, 2082, 2083, 2084, 2085, 2086, 2087, 2088, 2089, 2090, 2091, 2092, 2093, 2094, 2095, 2096, 2097, 2098, 2099, 2100, 2101, 2102, 2103, 2104, 2105, 2106, 2107, 2108, 2109, 2110, 2111, 2112, 2113, 2114, 2115, 2116, 2117, 2118, 2119, 2120, 2121, 2122, 2123, 2124, 2125, 2126, 2127, 2128, 2129, 2130, 2131, 2132, 2133, 2134, 2135, 2136, 2137, 2138, 2139, 2140, 2141, 2142, 2143, 2144, 2145, 2146, 2147, 2148, 2149, 2150, 2151, 2152, 2153, 2154, 2155, 2156, 2157, 2158, 2159, 2160, 2161, 2162, 2163, 2164, 2165, 2166, 2167, 2168, 2169, 2170, 2171, 2172, 2173, 2174, 2175, 2176, 2177, 2178, 2179, 2180, 2181, 2182, 2183, 2184, 2185, 2186, 2187, 2188, 2189, 2190, 2191, 2192, 2193, 2194, 2195, 2196, 2197, 2198, 2199, 2200, 2201, 2202, 2203, 2204, 2205, 2206, 2207, 2208, 2209, 2210, 2211, 2212, 2213, 2214, 2215, 2216, 2217, 2218, 2219, 2220, 2221, 2222, 2223, 2224, 2225, 2226, 2227, 2228, 2229, 2230, 2231, 2232, 2233, 2234, 2235, 2236, 2237, 2238, 2239, 2240, 2241, 2242, 2243, 2244, 2245, 2246, 2247, 2248, 2249, 2250, 2251, 2252, 2253, 2254, 2255, 2256, 2257, 2258, 2259, 2260, 2261, 2262, 2263, 2264, 2265, 2266, 2267, 2268, 2269, 2270, 2271, 2272, 2273, 2274, 2275, 2276, 2277, 2278, 2279, 2280, 2281, 2282, 2283, 2284, 2285, 2286, 2287, 2288, 2289, 2290, 2291, 2292, 2293, 2294, 2295, 2296, 2297, 2298, 2299, 2300, 2301, 2302, 2303, 2304, 2305, 2306, 2307, 2308, 2309, 2310, 2311, 2312, 2313, 2314, 2315, 2316, 2317, 2318, 2319, 2320, 2321, 2322, 2323, 2324, 2325, 2326, 2327, 2328, 2329, 2330, 2331, 2332, 2333, 2334, 2335, 2336, 2337, 2338, 2339, 2340, 2341, 2342, 2343, 2344, 2345, 2346, 2347, 2348, 2349, 2350, 2351, 2352, 2353, 2354, 2355, 2356, 2357, 2358, 2359, 2360, 2361, 2362, 2363, 2364, 2365, 2366, 2367, 2368, 2369, 2370, 2371, 2372, 2373, 2374, 2375, 2376, 2377, 2378, 2379, 2380, 2381, 2382, 2383, 2384, 2385, 2386, 2387, 2388, 2389, 2390, 2391, 2392, 2393, 2394, 2395, 2396, 2397, 2398, 2399, 2400, 2401, 2402, 2403, 2404, 2405, 2406, 2407, 2408, 2409, 2410, 2411, 2412, 2413, 2414, 2415, 2416, 2417, 2418, 2419, 2420, 2421, 2422, 2423, 2424, 2425, 2426, 2427, 2428, 2429, 2430, 2431, 2432, 2433, 2434, 2435, 2436, 2437, 2438, 2439, 2440, 2441, 2442, 2443, 2444, 2445, 2446, 2447, 2448, 2449, 2450, 2451, 2452, 2453, 2454, 2455, 2456, 2457, 2458, 2459, 2460, 2461, 2462, 2463, 2464, 2465, 2466, 2467, 2468, 2469, 2470, 2471, 2472, 2473, 2474, 2475, 2476, 2477, 2478, 2479, 2480, 2481, 2482, 2483, 2484, 2485, 2486, 2487, 2488, 2489, 2490, 2491, 2492, 2493, 2494, 2495, 2496, 2497, 2498, 2499, 2500, 2501, 2502, 2503, 2504, 2505, 2506, 2507, 2508, 2509, 2510, 2511, 2512, 2513, 2514, 2515, 2516, 2517, 2518, 2519, 2520, 2521, 2522, 2523, 2524, 2525, 2526, 2527, 2528, 2529, 2530, 2531, 2532, 2533, 2534, 2535, 2536, 2537, 2538, 2539, 2540, 2541, 2542, 2543, 2544, 2545, 2546, 2547, 2548, 2549, 2550, 2551, 2552, 2553, 2554, 2555, 2556, 2557, 2558, 2559, 2560, 2561, 2562, 2563, 2564, 2565, 2566, 2567, 2568, 2569, 2570, 2571, 2572, 2573, 2574, 2575, 2576, 2577, 2578, 2579, 2580, 2581, 2582, 2583, 2584, 2585, 2586, 2587, 2588, 2589, 2590, 2591, 2592, 2593, 2594, 2595, 2596, 2597, 2598, 2599, 2600, 2601, 2602, 2603, 2604, 2605, 2606, 2607, 2608, 2609, 2610, 2611, 2612, 2613, 2614, 2615, 2616, 2617, 2618, 2619, 2620, 2621, 2622, 2623, 2624, 2625, 2626, 2627, 2628, 2629, 2630, 2631, 2632, 2633, 2634, 2635, 2636, 2637, 2638, 2639, 2640, 2641, 2642, 2643, 2644, 2645, 2646, 2647, 2648, 2649, 2650, 2651, 2652, 2653, 2654, 2655, 2656, 2657, 2658, 2659, 2660, 2661, 2662, 2663, 2664, 2665, 2666, 2667, 2668, 2669, 2670, 2671, 2672, 2673, 2674, 2675, 2676, 2677, 2678, 26

LICHEN lachneus.

Woolly-rooted Angular Lichen.

CRYPTOGAMIA Age.

Gen. Char. Male, scattered warts.

Female: smooth shields or tubercles, in which the
seeds are imbedded.

Spec. Char. Fronds simple, crowded and somewhat
imbricated, thickish, rounded, waved and lobed;
above green and smooth above; black and spongy
beneath. Tubercles in immersed black dots.

Sex. Lichen lachneus. Ach. Prod. 140.

Endocarpon lachneum. Ach. Mch. 127.

COMMENTS on the former names, as well as on the rocks
at Chester and Bristol hot-wells, according to Mr. W.
Barrow. From whence we received specimens which agree with
what Dr. Acharyus has sent. I gathered this species plenti-
fully at Bristol in 1798, but was not satisfied of its being di-



1698

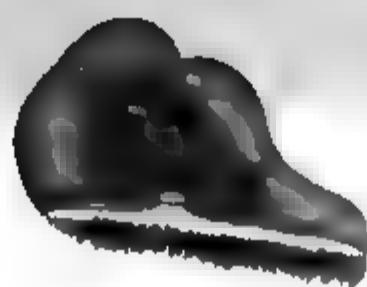


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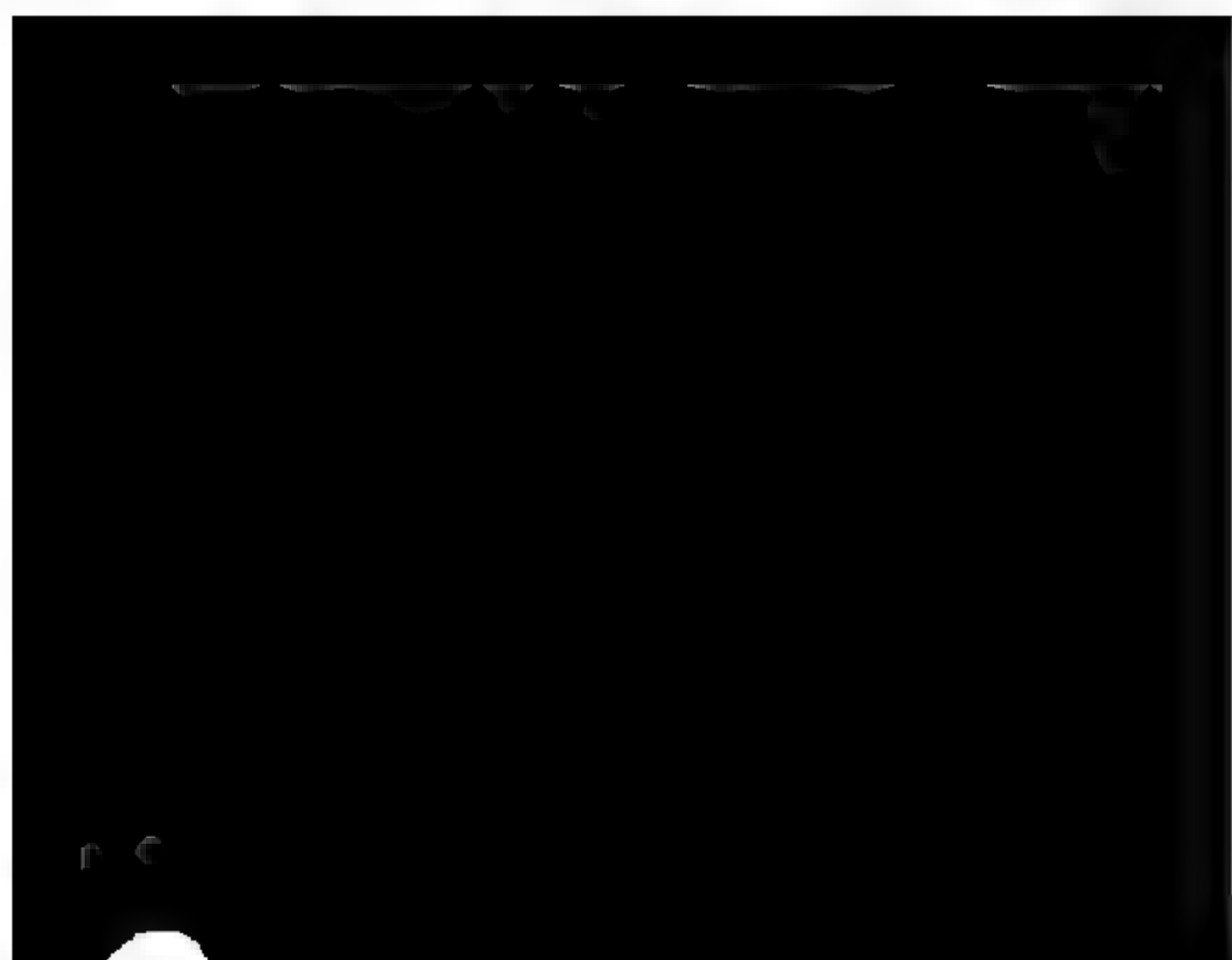
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1866



London. Published by J. W. Smith, London.







L I C H E N pallidus.

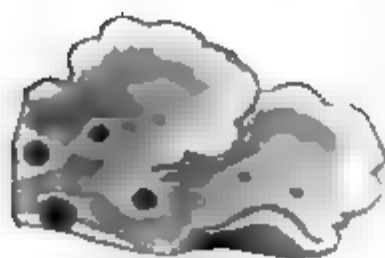
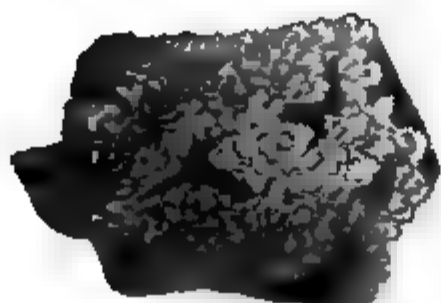
*Pale-leaved Dot Lichen.**CRYPTOGAMIA Algæ.***GEN. CHAR.** Male, scattered warts.

Female, smooth shields or tubercles, in which the seeds are imbedded.

SPEC. CHAR. Frond leafy, somewhat imbricated, lobed, notched, pale greenish grey; slightly spongy and black beneath; the outermost lobes naked and pale on the under side. Tubercles immersed, black.**SYN.** *Endocarpon pallidum.* Ach. *Lichenogr. Univ.* v. 1. 301.

BROUGHT from Ireland by Sir Thomas Gage, Bart. It grows on rocks covered with a thin coat of earth, and composes rather broad, irregular, but not much interrupted, patches of small leafy leathery fronds, whose round, crenate, wavy lobes lie over each other, spreading gradually from the centre. Their under side is at first smooth and whitish, but the black spongy substance, by which the middle of the plant is attached underneath, gradually spreads, though Dr. Acharius observes it to be free from fibrous radicles. That author appears to have been but imperfectly acquainted with the tubercles. We find them black, nearly globular, though a little depressed at the top, which is nearly on a level with the surface of the frond into whose substance they are sunk. The colour of the frond itself is a light greenish grey, prone to assume a tawny hue, like other neighbouring species.

2541



Handwritten text, likely a description or identification of the specimen.

[2012]

LICHEN leptophyllus.
Small-leaved Dot Lichen.

CRYPTOGAMIA *Agar.*

GEN. CHAR. Male. scattered warts.

Female, smooth shields or tubercles, in which the seeds are imbedded.

SPEC. CHAR. Frond leafy, small, somewhat cartilaginous, peltate, blackish brown, smooth on both sides, often black beneath; the circumference rounded, lobed and wavy. Tubercles in minute immersed dots.

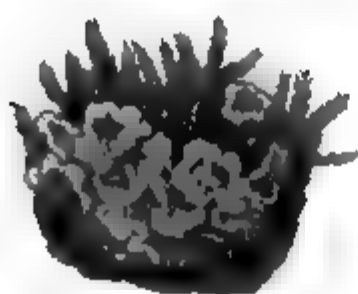
SYN. *Lichen leptophyllus.* *Ach. Prod.* 141.

Endocarpon leptophyllum. *Ach. Meth.* 127.

GATHERED by Mr. Hooker and Mr. Borrer on the hill of Kinnoul near Perth, a famous spot for beautiful agate pebbles. The smaller and blacker specimens, *f. 2*, grew on rocks by the shore of Loch Lomond.



2012



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Fig. 1. Published by J. T. G. in London

LICHEN miniatus.

Grey cloudy Lichen.

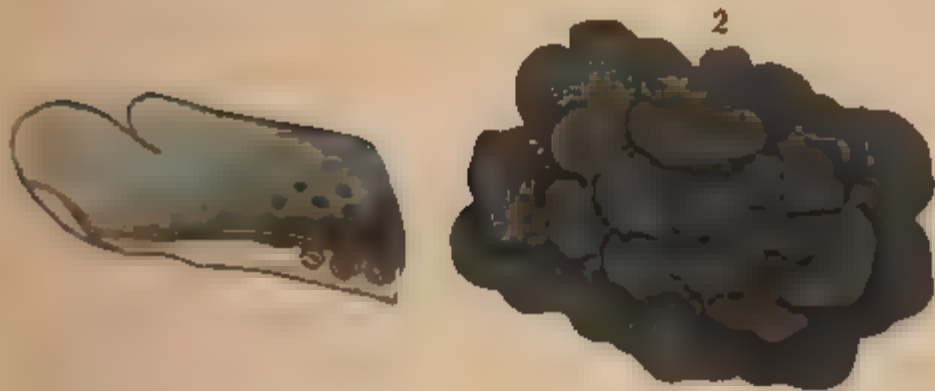
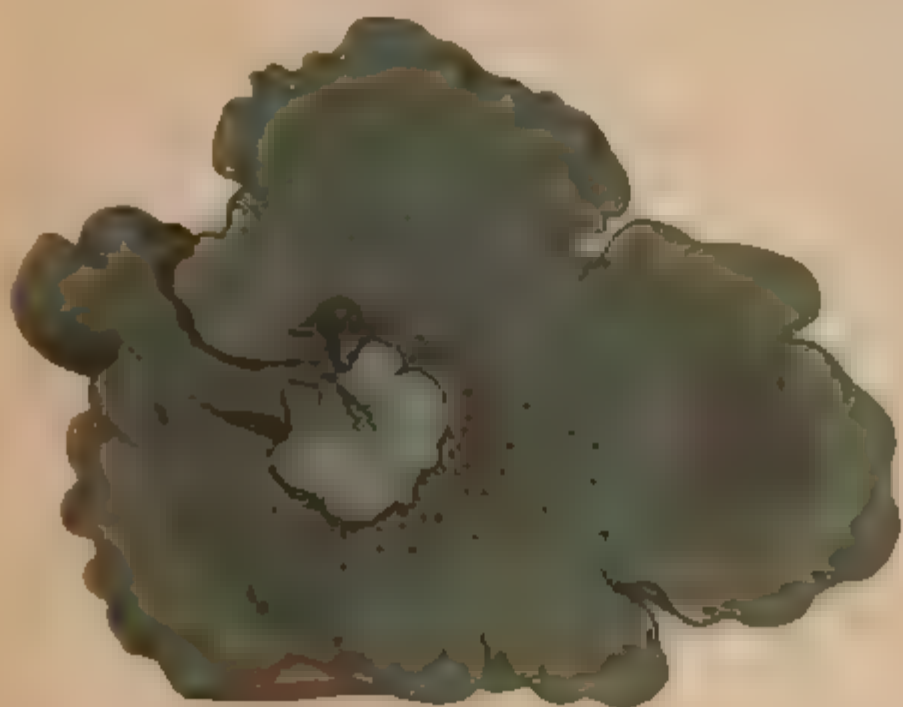
CRYPTOGAMIA *Alga.***GEN. CHAR.** Male, scattered warts.

Female, smooth shields or tubercles, in which the seeds are imbedded.

SPEC. CHAR. Umbilicated, lobed, bulging, smooth on both sides, tawny beneath. Tubercles in numerous minute immersed dots.**SYN.** Lichen miniatus. *Linn. Sp. Pl.* 1617. *Huds.* 549. *With. v.* 4. 66.*Lichenoides coriaceum nebulosum cinereum punctatum, subtus fulvum. Dill. Musc.* 223. *t.* 30. *f.* 127. B. compared at Oxford.β Lichen amphibius. *With. v.* 4. 66.

COMMUNICATED by several of our friends from the North. It grows on shady, generally perpendicular, rocks, in the highlands and lowlands of Scotland, and in all the mountainous counties of England. It is plentiful under hanging rocks above Saxton's bath, Matlock, and found at all seasons.

Its general form is umbilicated, or fixed by a strong central



LICHEN aquaticus.

Clustered water Lichen.

CRYPTOGAMIA Alga.

GEN. CHAR. Male, scattered warts.

Female, smooth shields or tubercles, in which the seeds are imbedded.

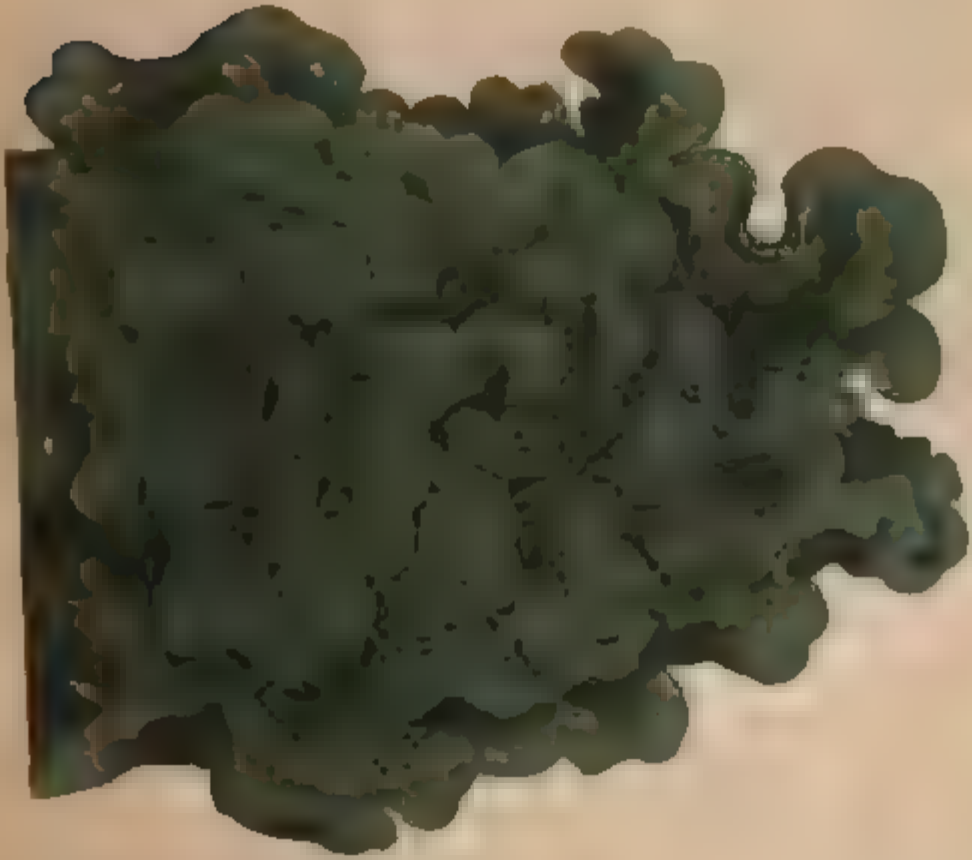
SPEC. CHAR. Obsoletely umbilicated, aggregate, lobed, creeping, smooth on both sides, greenish above. Tubercles in immersed dots.

SYN. Lichen aquaticus (by error of the press fluviatilis).

*With. v. 4. 67. Weis Crypt. 77.**L. fluviatilis. Web. Gott. 265. t. 4.**Platisma aquaticum. Hoffm. Pl. Lich. t. 45.*

GATHERED in the bed of an alpine river at Hafod, Cardiganshire. It grows on large stones, or on small pebbles under water, in very large patches, consisting of numerous clustered leaves, which even at first are hardly to be called umbilicated, though about as much so as in *L. polyphyllus* of Linnæus. These leaves or fronds are roundly lobed, tumid, smooth on both sides, veinless, olive-green above, at least when moist,

54/64

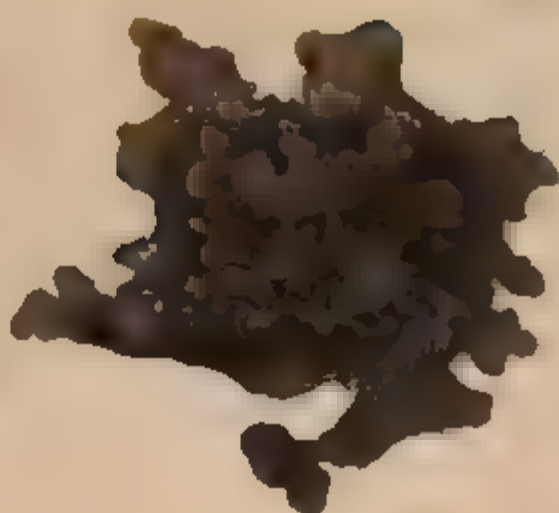


Small, dark, elongated object, possibly a fossil or a piece of organic material, mounted on a light-colored background.









March 3 1892. Published by J. L. Smith



GYROPHORA deusta.

Burnt Gyrophora.

CRYPTOGAMIA Algæ.

GEN. CHAR. *Tubercles sessile on a peltate frond, black, with a plaited contorted disk, in whose clefts the seeds are lodged.*

SPEC. CHAR. *Frond membranous, roundly lobed, brown; upper side more or less granulated; under cellular and reticulated, smooth and naked. Tubercles with circular plaits, at length convex.*

Syn. *Gyrophora deusta. Ach. Meth. 102.*

Lichen deustus. Linn. Sp. Pl. 1618. Fl. Suec. 419. Ach. Prod. 145. With. 63?

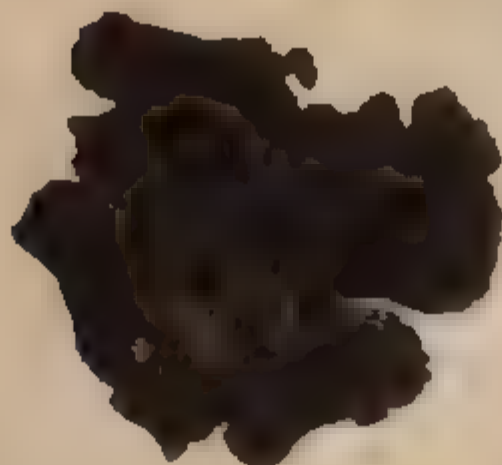
L. flocculosus. Wulf. in Jacq. Coll. v. 3. 98. t. 1. f. 3.

L. pustulati varietas singularis. Linn. Fl. Suec. 420. It. W. Goth. 217!

Umbilicaria flocculosa. Hoffm. Pl. Lich. t. 68. f. 1—4.

FOUND on rocks in the Highlands of Scotland, many years ago, by Mr. Dickson. Our specimen was gathered on Ben Cruachan by Mr. W. Borrer; that in fructification came from Dr. Swartz. The plant is very common in Sweden, and appears, by an authentic specimen, to be what Linnaeus intended. When it grows on perpendicular moist rocks, it most frequently becomes covered on the upper side with minute scales or leaflets, as Linnaeus found it in West Gothland; but these are only dilatations of the granulations which it usually bears. The under surface is naked and smooth, but not even, being more or less distinctly marked with veins reticulations, with pits between. Both sides are of a lurid blackish brown, somewhat rusty, but not olive. The frond is often a little compound; its circumference roundly lobed or crenate. Tubercles quite sessile, very black and opaque, a little convex, with several convolutions of the disk, partly concentric, partly folded, but there is usually a regular circular outline, or rim.

2483



represented by the heavy border

-

GYROPHORA *erosa*.
Corroded Gyrophora.

CRYPTOGAMIA *Alge.*

GEN. CHAR. *Tubercles sessile on a peltate frond, black, with a plaited contorted disk, in whose clefts the seeds are lodged.*

SPEC. CHAR. *Frond membranous, rugged, blueish-black; its circumference perforated, reticulated and jagged; under side brownish-grey, somewhat granulated and fibrous. Tubercles rather convex.*

Syn. *Gyrophora erosa. Ach. Meth. 103.*

Lichen erosus. Ach. Prod. 145. Weber. Goett. 259.

L. corrosus. Ehrh. Crypt. 306.

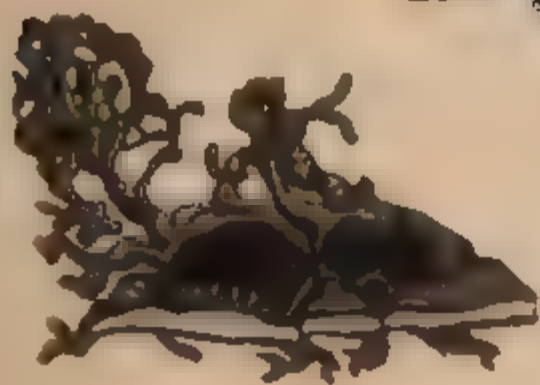
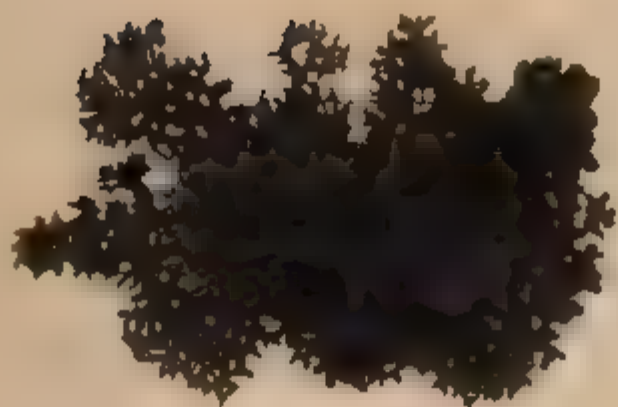
L. torrefactus. Lightf. 862. With. v. 4. 62. Hull. 301. Winch. Guide. v. 2. 43.

L. polyrrhizos. Huds. 550.

Lichenoides rugosum durum pullum, peltis atris verrucosis. Dill. Musc. 220. t. 30. f. 118.

Umbilicaria erosa. Hoffm. Pl. Lich. v. 3. t. 70.

FREQUENT on the highest granite hills of Wales and Scotland, as well as in the mountainous parts of Durham and Yorkshire. Accompanying the vitrified forts in the Highlands, it looks as if it had, like them, undergone the action of fire, which seems to have suggested Lighthoot's specific



Cladonia rangiferina



LICHEN pustulatus.

Basketed Lichen.

CRYPTOGAMIA Alge.

GEN. CHAR. *Viz.* scattered warts.

Fossile smooth sticks or tubercles, in which the seeds are imbedded.

SPEC. CHAR. Umbilicated, membranous, lobed, blistered and warty, greenish ash-coloured; beneath dark-green, densely pitted. Shields flat, at length pitted.

SYN. *Lichen pustulatus* *Lin.* *Sp. Pl.* 1617. *Ach.* *Proc.* 145. *Hack.* 549. *With.* v. 4. 64. *Hull.* 902. *Lamour.* 358. *Eckl.* *Crypt.* 79.

Umbilicaria pustulata *Schrad.* *Spicil.* 102. *Hoffm.* *Pl. Lich.* t. 28. f. 1, 2. t. 29. f. 4.

Lecidea pustulata *Ach.* *Meth.* 85.

Lichenoides pustulatum cinereum et veluti ambustum. *Dill.* *Musc.* 226. t. 30. f. 131.

VARIOUS of our often-mentioned friends have sent us this



1283



March 1 1860. Sublight p. 12. 1860. 1283

GYROPHORA proboscidea.

Proboscis Gyrophora.

CRYPTOGAMIA Algae.

GEN. CHAR. *Tubercles sessile, on a peltate frond, black, with a plaited contorted disk, in whose clefts the seeds are lodged.*

SPEC. CHAR. *Frond membranous, notched; upper side rugose, with elevated reticulations, of a smoky ash-colour; under smooth, naked and paler. Tubercles top shaped, prominent; their disk at length rather convex, variously plaited.*

STR. *Gyrophora proboscidea. Ach. Meth. 105.*

Lichen proboscideus. Ach. Prod. 147.

L. mesenteriformis. Ehrh. Crypt. 89.

L. decussatus. Villars. Dauph. v. 3. 964. t. 55.

L. densus. Lightf. 861.

Umbilicaria corrugata. Hoffm. Pl. Lich. t. 43. f. 4—7.

NOT ~~see~~ on the granite rocks of the Highlands, nor in the north of England and Wales, generally accompanying our *t. 522*, which is *G. cylindrica* of Acharius. We can however assure those who are interested in the matter, that the real *Lichen proboscideus* of Linnaeus, so fully described in *Sp. Pl. ed. 1. 1150*, is, beyond all doubt, a specimen of our *t. 522*, as nearly destitute of fringe or hairs as the plant in our present plate. We assent nevertheless to the *cylindricus* of Linnaeus, *Sp. Pl. ed. 1. 1144*, (to which Montan applied a most erroneous synonym of Dillenius,) being also our *t. 522*. Linnaeus has justly noted in his own copy of *Sp. Pl.* that the *Lichens* in question are one and the same species. The present indeed is more corrugated in its upper surface, the other more furnished with warty pustules, as well as incomparably more fringed. The tubercles vary in degree of elevation, and the names of *proboscideus* and *cylindricus* are nearly equally unsuitable to the general form of both, though well answering to the Linnæan specimen. We publish these remarks, and the annexed plate, for the sake of illustration, as so many botanists have separated these plants, which appear to us varieties only, and for both which we would retain the name of *Gyrophora proboscidea*. See *Winch*, v. 2. 43.

July 1894



• assemblage of fossils





GYROPHORA arctica.

Arctic Gyrophora.

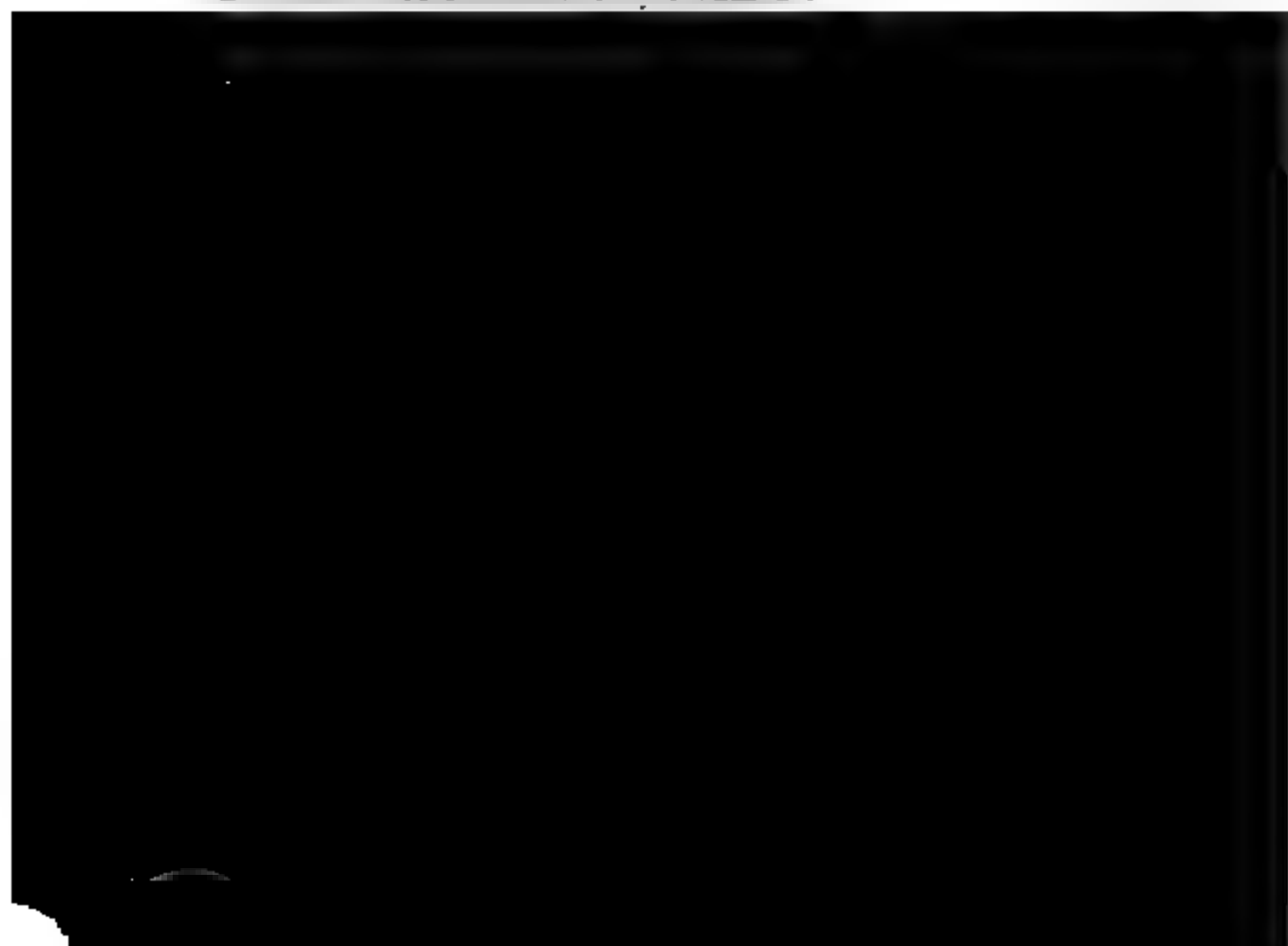
CRYPTOGAMIA Age.

GEN. CHAR. Tubercles sessile, on a petiole frond, black, with a pitted contracted disk, in whose clefts the veins are inscribed.

SPEC. CHAR. Frond coriaceous, rigid, thick, wavy and curled: upper side with tortuous plaits and elevated points, ash-coloured: under very smooth, paler. Tubercles at length globose, capiously pitted.

SYN. *Gyrophora arctica.* Ach. Meth. 106. t. 2. f. 6.

THIS is here admitted as a British species, on the authority of a specimen, the uppermost in our plate, obtained by Mr. Turner from the herbarium of the late Mr. Hudson, who probably collected it in Devonshire. The other was sent by Dr. Wahlenberg from Norway, and leaves no doubt as to the identity of the species, though its under side displays none of that yellow-
illustration by A. Smith.



2485



Zonitoides quadratus n.

[522]

LICHEN proboscideus.

*Fringed Bristle Lichen.*CEYPTOGAMIA *Ag.*

GER. CHAR. Male, scattered warts.

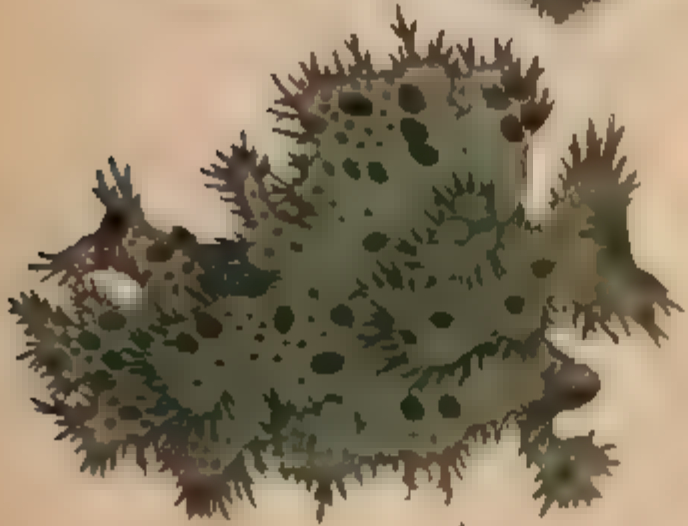
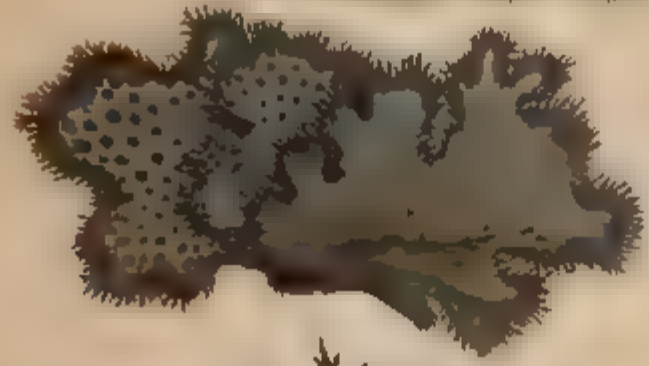
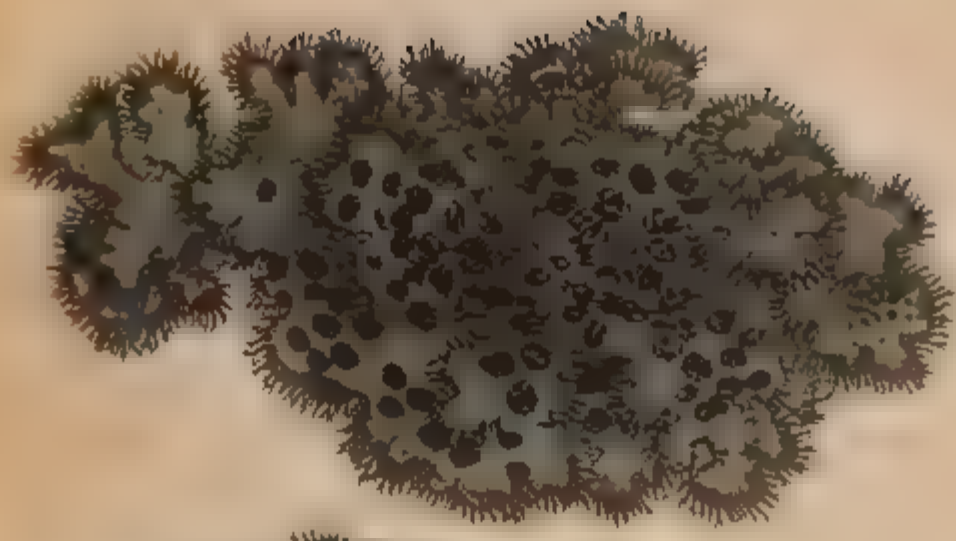
Femine, smooth shields or tubercles, in which the seeds are imbedded.

SEED. CHAR. Umbilicated, lobed, fringed. Tubercles on females, their disk marked with concentric lines.

SYN. Lichen proboscideus. *Lam. Sp. Pl.* 1617. *Fl. Lapp. Al.* 2. 433 *. *Hed.* 551. *Wub.* 5. 4. 65.L. marginatus. *Lycet.* 850.Umbilicatus *Wulfen.* *Pl. Lich.* 1. 44.Lecanora coccinea. *marginibus eleganter fimbriata.* *Del. Alp. N.* 213. *p.* 29. *f.* 116.

ON granite or gneiss rocks in alpine countries. We have received specimens from several of our correspondents in Scotland, Wales, and the north of England.

This is one of that singular tribe of Lichens called umbilicates, because they grow attached by a central strong root, and are consequently much depressed in the middle of their upper disc. This species is more lobed and expanded than some others. Its colour is a greenish grey when wet, its surface slightly



LICHEN pellitus.

Fleecy Lichen.

CRYPTOGAMIA *Alga.*

GEN. CHAR. Male, scattered warts. Female, smooth shields or tubercles, in which the seeds are imbedded.

SPEC. CHAR. Peltate, leafy, lobed, smooth, of a greenish copper-brown; beneath coal-black, and clothed with branching intricate hairs. Tubercles black, convex, plated, intricate.

SYN. Lichen pellitus. *Achar. Prod.* 149.

L. velut. *Huds.* 550.

L. parvifolius. *Lichtf.* 364. *Wub.* v. 4. 64.
Hud. 302.

Lichenoides pallens superne et glabrum, inferne
nigrum et cirrhosum. *Dill. Musc.* 226. t. 30.
p. 30.

THE singular mode of umbilicate or peltate-fronded Lichens is almost entirely alpine, growing on exposed rocks, each plant fixed by a very strong central root or roots, the circumference being loose. The lobes are often curled inwards. We





[2486]

GYROPHORA murina.

Mouse-skin Gyrophora.

CRYPTOGAMIA Alge.

GEN. CHAR. *Tubercles sessile, on a peltate frond, black, with a plaited contorted disk, in whose clefts the seeds are lodged.*

SPEC. CHAR. *Frond membranous; its margin plaited, wavy and somewhat lobed; minutely granulated on both sides; glaucous grey above; blackish brown beneath. Tubercles scattered, somewhat bordered, much convoluted.*

SYN. *Gyrophora murina. Ach. Meth. 110.*

Lichen murinus. Ach. Prod. 143.

L. griseus. Ach. in Act. Holm. ann. 1794. 91. t. 2. f. 3.

L. pulmonarius saxatilis, cinereo-fuscus, minimus. Faill. Paris. 116. t. 21. f. 14. Sm. Tour, ed. 2. t. 1. 108.

COMMUNICATED by Mr. Turner, but the specimens are exotic. We know not the precise place of growth of this species in Britain, though we have it from Sweden, Switzerland and France. It may be what Dare found on St. Vincent's rocks, and if so, it is *L. Dilleni*, *With. v. 4. 63*; which we are the more inclined to believe, as Mr. Turner, in *Tr. of L. Soc. v. 7. 112*, asserts it to be *t. 30. f. 117*, of Dillenius. We indeed, on consulting the herbarium at Oxford, found his *f. 117*, to be *polyrhizos* of the Linnæan herbarium, *Gyrophora hirsuta* of Acharius, and the true *Lichen spadochrous* of Ehrhart; nor can we account for the assertion of our learned friend, but by supposing, as Dillenius certainly confounded the two, they may both be placed together in his collection.

G. murina is a very distinct species, from one to two inches broad; black, without fibres, beneath, finely granulated with pale cartilaginous warts, like shagreen; browner towards the edge. The upper side is grey, very minutely cracked, without veins or plaits; white and mealy in the middle. Tubercles rare, minute, seldom perfectly plaited, though Acharius did ascertain them to be so. We have some from Switzerland, in the state which led him to refer the plant to *Endocarpon*.



2480



2481

LICHEN granulatus.
Granulated Gelatinous Lichen.

CEPOTAGINIA Ager.

GERM. CELL. Moll. raised warts.

Fertile, erect shields or tubercles, in which the
seeds are imbedded.

SPEC. CELL. Leafy, gelatinous, fleshy, granulated on
both sides of a blackish olive colour; its lobes
evenly rounded, plaited, crisped and cut. Shields
somewhat dark brown.

STEN. Lichen granulatus. *Hed.* 596. *Witt.* v. 4. 73.
Hall. 101. *Reh.* 462. *Silb.* 387.

L. f. 13. *Act. Prox.* 132.

Lichenoides gelatinosa atro-virens, auriculatum et
granulosa. *Dill.* *Musc.* 140. t. 19. j. 24.

Parochia furva. *Act. Mus.* 230.

DILLENIUS found this on gravel walks at Oxford, but
never saw the shields, which are very rare. Mr. W. Borrer
has since found it on a tree-trunk, on a tree-trunk, which

2757



Ant. Lillie. Published by J. S. Smith, London

[1912]

lichen fragrans.

Fragrans Gelatinosa Lichen.

HYPOGYNIA Agn.

GEN. CHAR. Main scattered warts.

FRUIT. Small shields or tubercles, in which the seeds are imbedded.

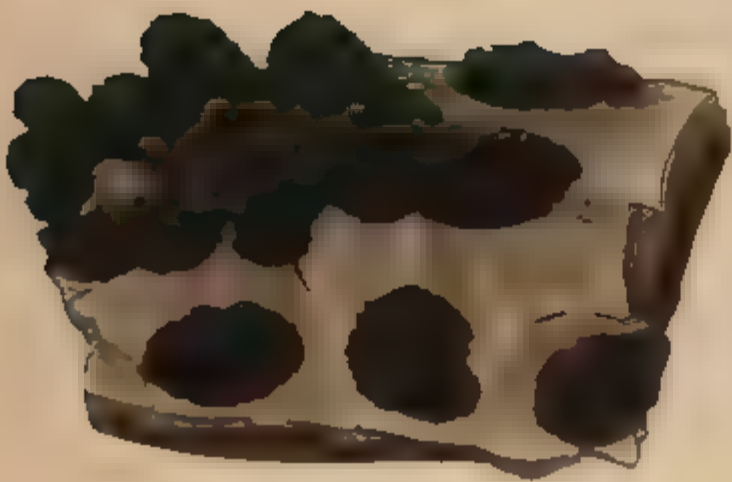
SPEC. CHAR. Gelatinous, fleshy, olive-black; its lobes ascending, somewhat rounded, thick-edged, crenate, smooth. Shields scattered, dull tawny, with a thick olive border.

GATHERED on the trunks of elms and ashes in Kent, Surrey and Sussex, by Mr. W. Barrer, who sent it to us as a new species, and we believe justly. We can refer it to none of the specimens or descriptions of Acharius or Bernhardt. If we are in so difficult a case, we must trust to the forgiveness of these authors and of our readers.

The fronds form small tufts, at first sight not unlike *L. fascicularis*, \pm 1:63. in aspect and colour, but very different when examined. They spread horizontally, but their lobes, which are small, rounded, crenate, thickened at the edge,



1912



After a short stay in the city of London

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LICHEN crispus.

Crisped gelatinous Lichen.

CRYPTOGAMIA Alga.

GEN. CHAR. Male, scattered warts.

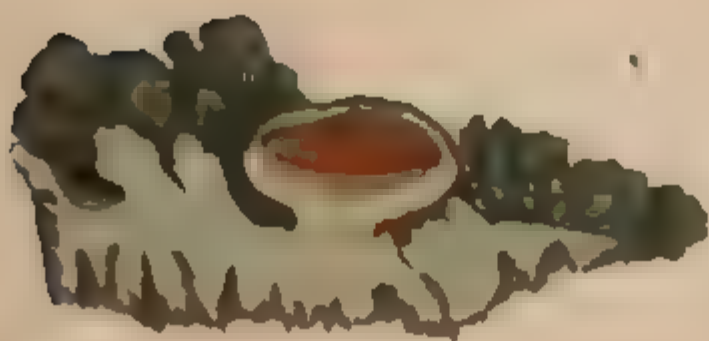
Female, smooth shields or tubercles, in which the seeds are imbedded.

SPEC. CHAR. Gelatinous, olive-green, imbricated, orbicular, lobed and notched, with crisped and granulated leaves in the centre. Shields flat, red-brown, scattered.

SYN. Lichen crispus, *Linn. Syst. Nat. ed. 12. v. 2. 710. Hudf. 535. Willd. v. 4. 76. Hull. 301. Relb. 427. Sibth. 327. Achar. Prod. 126.*Lichenoides gelatinosum atrovirens, crispum et rugosum. *Dill. Musc. 139. t. 19. f. 23.*

OF all the various and intricate tribe of Lichens, the gelatinous species are the most difficult of determination. They all nearly agree in their greenish olive hue, turning almost black when dry, in which state indeed they all for the most part shrivel up into an undistinguishable mass. When moist





LICHEN cretaceus,

Chalk Lichen.

CRYPTOGAMIA Alga.

GEN. CHAR. Male, scattered warts. Female, smooth shields or tubercles, in which the seeds are imbedded.

SPEC. CHAR. Crust lobed, stellated, dark-olive. Shield central, solitary, elevated, brownish-flesh-coloured, with a paler elevated entire border.

WE believe this curious little Lichen to have hitherto remained undescribed. Though very common on chalk, as well as on the white coating of flint stones, over which it is scattered in



738



[1924]

LICHEN *marginalis*.
Marginal Greenish Lichen.

CEPTEGARIA Ag.

GEN. CHAR. *Male*, scattered work.

Female, usually sessile or subsessile, in which the seeds are imbedded.

SPEC. CHAR. *Greenish*, imbricated, olive-black; its sides *inner*, parallel, zigzag, channelled, crisped, *crispae*, imbricated, smooth. Shells marginal, dark *reddish brown*, with an entire border.

SYN. *Lichen marginalis* *Hedl.* 534. *Ach. Prod.* 127.
Wet. 7. 4. 34. *Hedl.* 535.

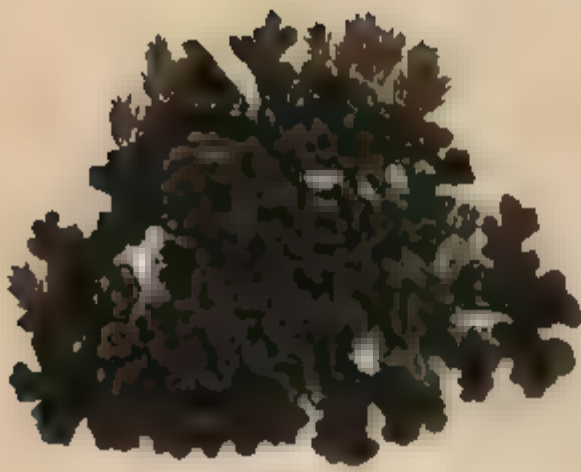
Lichenoides rhodostoma *Saccus*, *jacobsen* *maritima*
Swartz. *Dal. Musc.* 140. L. 19 f. 25.

Paraseta *maritima* *Ag.* *Ach. Musc.* 241.

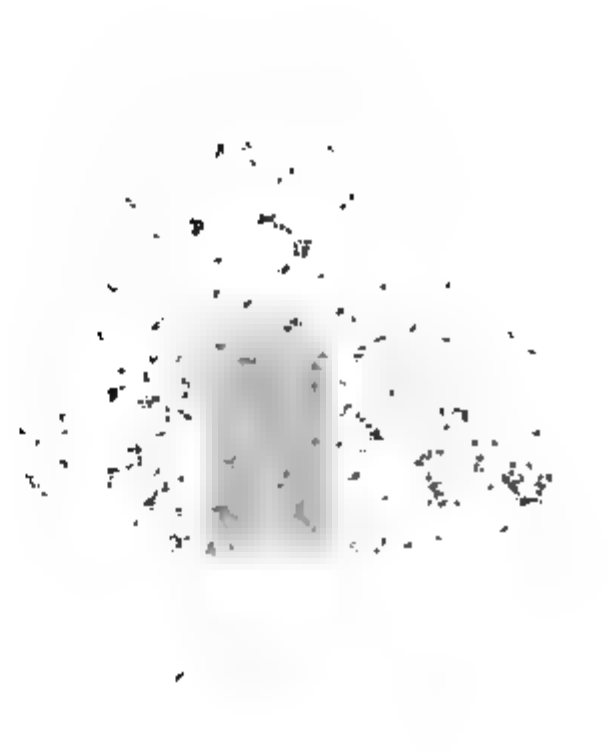
WE have this from Mr. Haines's herbarium, with his authentic name, as well as from Derbyshire and the Highlands of Scotland. The specimen in our plate was gathered on stone walls near Settle, Yorkshire. It grows in broad patches on calcareous stones, in rather moist places, often accom-



1924



Agaricus (Peziza) sp. 10. (Microscopical)



LICHEN *sinuatus*.

Sinuated Lichen.

CRYPTOGAMIA *Alga*.

GEN. CHAR. Male, scattered warts.

Female, smooth shields or tubercles, in which the seeds are imbedded.

SPEC. CHAR. Imbricated, pellucid, somewhat gelatinous. Leaves roundish, sinuated, crenate, glaucous-green, smooth on both sides. Shields concave, brownish, with an elevated smooth border.

SYS. Lichen *sinuatus*. *Huds.* 535. *Witb.* v. 4. 75. *Fam.* 301.

Lichenoides tenue crispum, foliis parvis depressis.
Det. M. S. 145. *t.* 19. *f.* 33.

HEREFORDSHIRE, Devonshire and Wales are the only parts of this island in which Mr. Hudson's *Lichen sinuatus* is known to have been found, so that Mr. D. Turner's having discovered it on the ruinous walls of Burgh castle, near Yarmouth, is no small triumph for our Norfolk Flora. It occupies the surfaces of rocks or stones in shady places, and being very small, is not easily detected, except in wet weather, when it assumes a brighter sea-green tinge. It grows in little dense tufts,

172



[250]

COLLEMA *tenax*.

Fouquieria Collema.

CHITONARIA *Agr.*

Gen. Coll. *Species* orbicular, horizontal, nearly sessile superficial, with a gelatinous accessory border.

Spec. Coll. Fossil rather glaucous, fleshy, imbricated. Limes obtuse, somewhat palmate. Shields depressed, dilated reddish.

Spec. Lichen tenax. *Swartz Act. Nov. Upsal.* v. 4. 243. *Act. Fridr.* 125. *Act. Nov. Holm.* v. 16. 9. t. 1. f. 1. *Berk.* in *Scand. Journ.* for 1799. fasc. 1. 14. t. 2. f. 3.

Parmelia tenax. *Act. Meth.* 231.

SENT from North Wales by the Rev. Hugh Davies. It grows in alpine moist situations, amongst mosses, to which



2149



Acropora digitifera

[2348]

COLLEMA plicatile.

Plaited Collema.

CRYPTOGAMIA Algae.

GEN. CHAR. *Shields* orbicular, horizontal, nearly sessile, superficial, with a gelatinous accessory border.

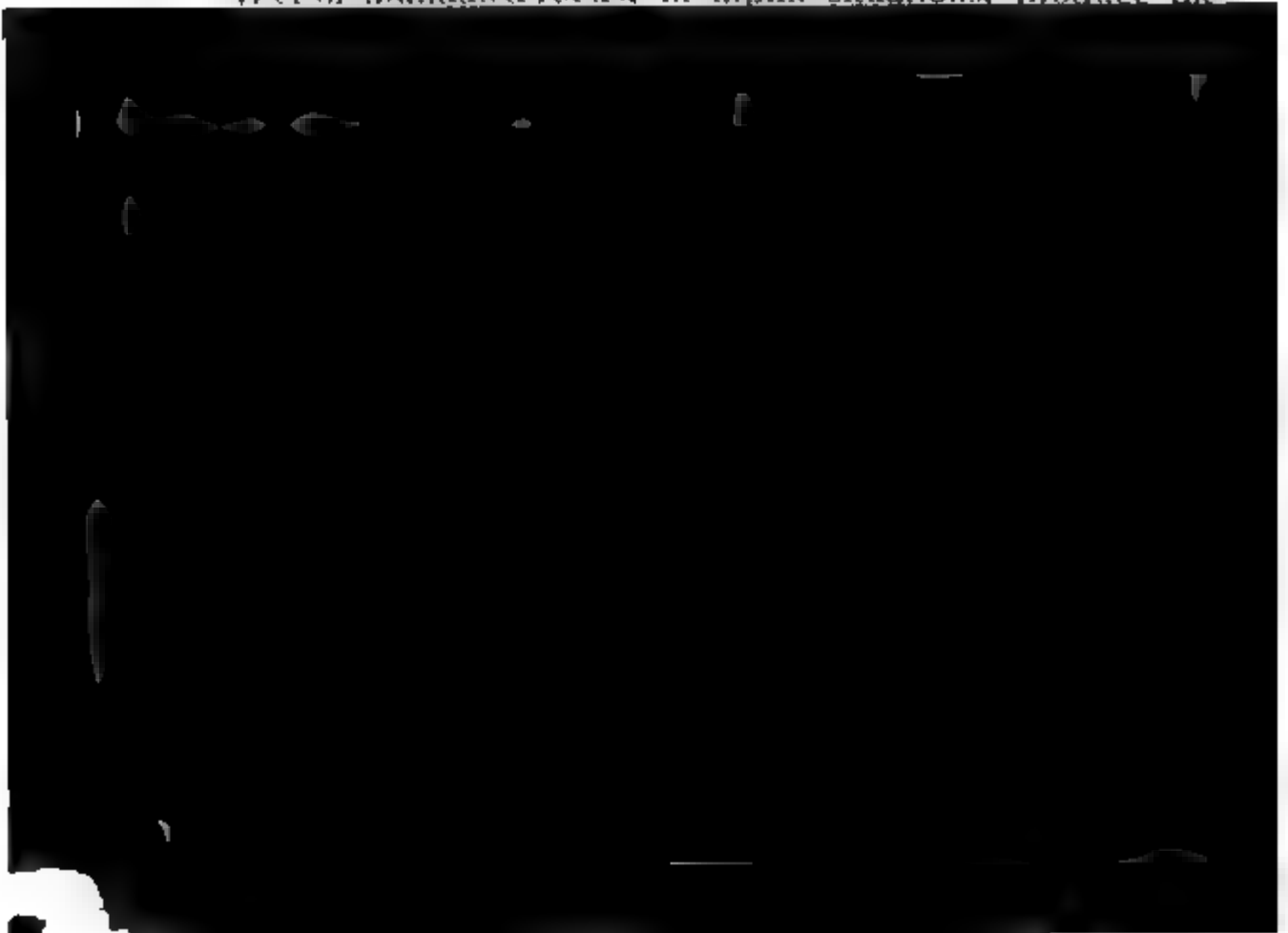
SPEC. CHAR. Frond somewhat fleshy, imbricated; lobes plaited, rounded. Shields reddish brown, concave, crowded.

SYN. Lichen plicatilis. *Ach. Prodr.* 129. *Act. Nov. Holm.* v. 16. 11. t. 1. f. 2. *Bernh. in Schrad. Journ. for 1799. fasc. 1.* 13.

Parmelia plicatilis. *Ach. Meth.* 240.

FOR this we are indebted to Mr. Griffith, who sent it from North Wales; and we have also fine specimens named by Dr. Acharius.

Wet or inundated rocks, in alpine situations, produce the



21.1



See also collected by J. L. S. & J. L. S.

COLLEMA multipartitum.

Many-branched Collema.

CRYPTOGAMIA Age.

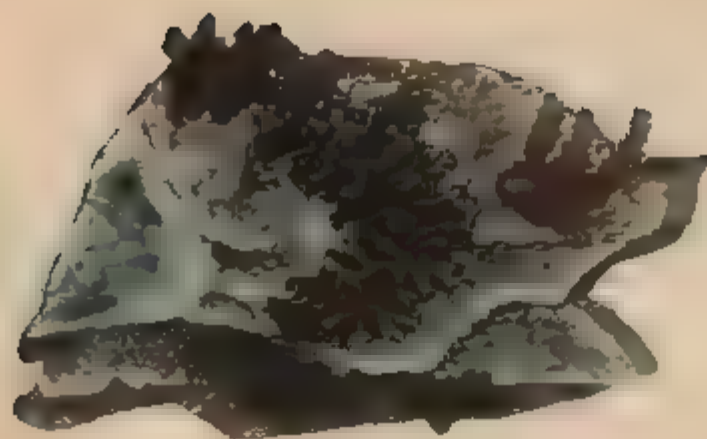
GEN. CHAR. Shields orbicular, horizontal, nearly sessile, superficial, with a gelatinous accessory border.

SPEC. CHAR. Frond radiating, fleshy; segments repeatedly forked, fan-shaped, crenate; convex above; concave beneath. Shields prominent, at length blackish and flat.

COMMUNICATED by Sir Thomas Gage from Killarney, in Ireland, where it abounds on walls and rocks.

The fronds are fleshy, but not so very gelatinous as those of some other species, of a dull blackish olive, radiating from a centre, which they soon leave bare; sometimes becoming dispersed in small broken fragments, which lose their concentric

2582



For more information see the description of the specimen

[2099]

LICHEN fluviatilis.
River Gelatinous Lichen.

CRYPTOGAMIA Age.

GEN. CHAR. Male, scattered warts.

FEMIN. small shields or tubercles, in which the seeds are imbedded.

SPEC. CHAR. Gelatinous, thick, imbricated, greenish-black: its segments obovate or linear, convex, profluous, channelled beneath. Shields globose, concave below.

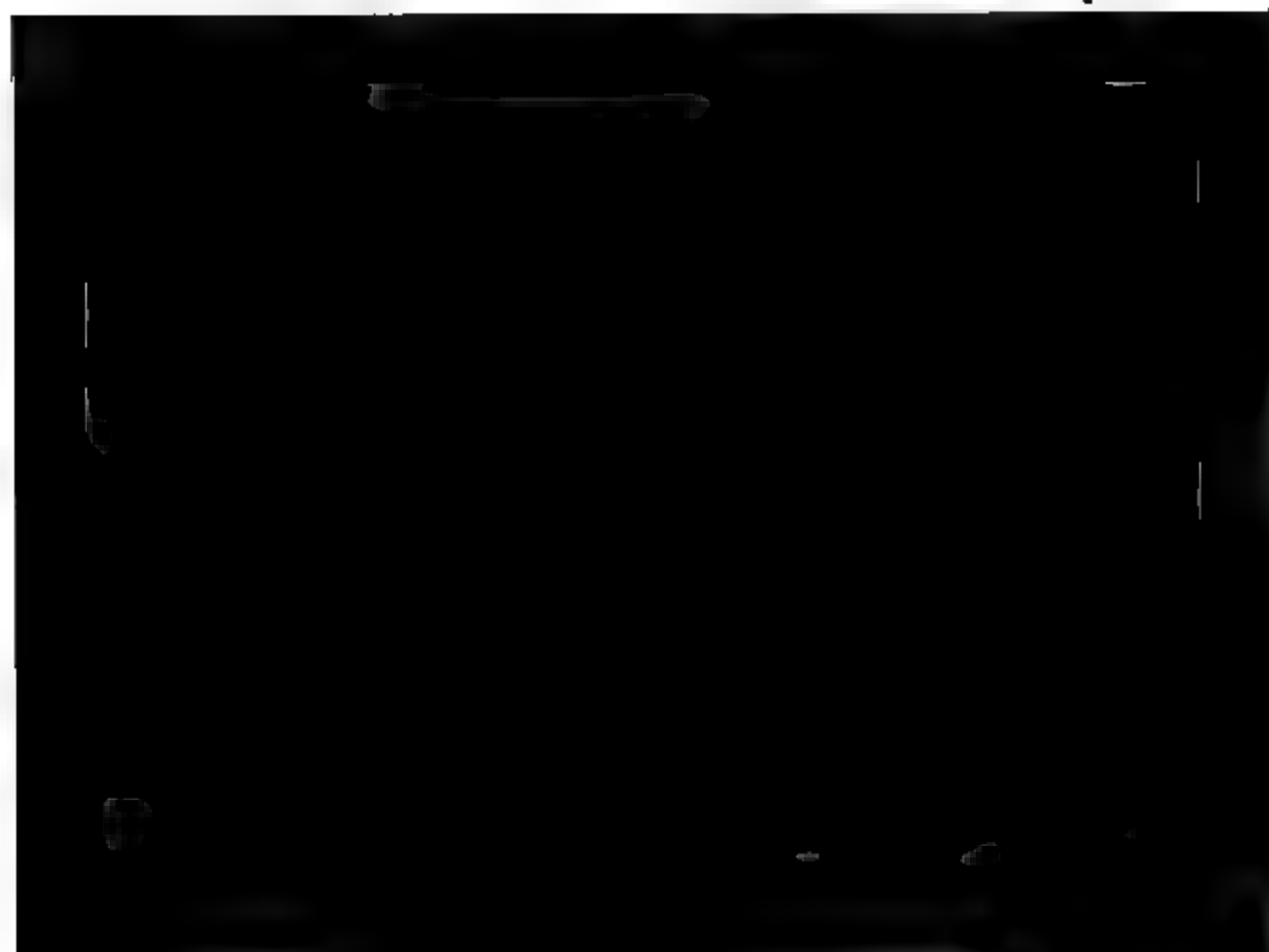
SYN. *Lichen fluviatilis*. *Herc.* 536. *With.* v. 4. 77.
Hall. 301.

Lichenoides gelatinosum, foliis angustioribus tuniformibus. *Dill. Musc.* 143. t. 19. f. 28.

L. gelatinosum opuntioides. *Dill. in Raii Syn.* 72.

Paraselia? fluviatilis. *Ach. Meth.* 249.

MALHAM-COVE in Yorkshire afforded this rare plant to



[1162]

LICHEN fascicularis.
Clustered Gelatinous Lichen.

CRYPTOGAMIA *Alga.*

GEN. CHAR. Male, scattered warts.

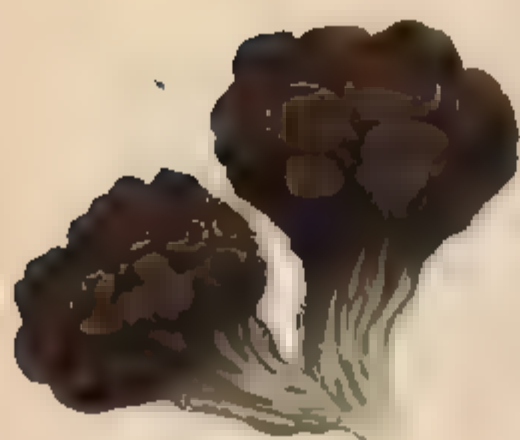
Female, smooth shields or tubercles, in which the seeds are imbedded.

SPEC. CHAR. Clustered, gelatinous. Leaves dilated upwards, plaited, lobed and crenate. Shields marginal, shortly stalked, clustered, turbinate, reddish.

SYN. Lichen fascicularis. *Linn. Mant.* 133. *Achar. Prod.* 129. *Huds.* 536. *Witb.* v. 4. 76. *Hull.* 301. *Relb.* 463.

Lichenoides gelatinosum palmatum, tuberculis conglomeratis. *Dill. Musc.* 141. t. 19. f. 27.

COMMUNICATED by Mr. Oliver and Mr. Harriman from Durham. We have gathered it on mossy trees about Ambleside, Westmoreland. It has been noticed by but few botanists, being dried up and shrunk to nothing in dry weather, so as to have no appearance of a vegetating substance; but during rain it becomes plump and conspicuous. It belongs to the obscure tribe of gelatinous Lichens, the *Collema*



F. G. A. 1000 P. 1000

[1635]

LICHEN palmatus.
Palmate Gelatinous Lichen.

CRYPTOGAMIA Algae.

GEN. CHAR. Male, scattered warts.

Female, smooth shields or tubercles, in which the seeds are imbedded.

SPEC. CHAR. Frond gelatinous, imbricated, tufted, greenish-brown; its segments thin, linear, many-lobed, somewhat palmate, revolute. Shields scattered, reddish.

SYN. Lichen palmatus. *Huds.* 536. *Ach. Prod.* 135.
With. v. 4. 74. *Hull.* 301.

Lichenoides pellucidum fuscum corniculatum. *Dill.*
Musc. 143. *t.* 19. *f.* 30.

L. gelatinosum tenerius laciniatum, ex fusco purpurascens. *Raii Syn.* 72.

WE see no reason to doubt this being the *L. palmatus* of Hudson, notwithstanding the suppositions to the contrary in

1635



Cladonia (L.) Ach. (Lecanora) L.

[1427]

LICHEN tenuissimus.
Fine-cut gelatinous Lichen.

CRYPTOGAMIA Alga.

GEN. CHAR. Male, scattered warts.

Female, smooth shields or tubercles, in which the seeds are imbedded.

SPEC. CHAR. Imbricated, gelatinous, greenish black. Leaves much divided, into linear unequal somewhat fringed segments. Shields sessile, reddish brown, with a thick entire border.

SYN. Lichen tenuissimus. *Dicks. Crypt. fasc. 1. 12. t. 2. f. 8. Achar. Prod. 139. With. v. 4. 61. Hull. 298.*

Parmelia tenuissima. Achar. Meth. 244.

WHEN Mr. Dickson first paid a visit to Norwich in the year 1782, this was one of the new cryptogamic plants then first made known to him by its discoverer Mr. Crowe. Twenty



Fig. 1



Fig. 2

COLLEMA Schraderi.

*Sclerocaulon Collema.**CRYPTOGAMA Algæ.*

Gen. Char. *Socius* irregular horizontal, nearly sessile, superficial, with a gelatinous accessory border.

Spec. Char. Frond somewhat fleshy, tufted, erect, branched in a forked manner, rugose. Shields lateral, whitish, with a pale border.

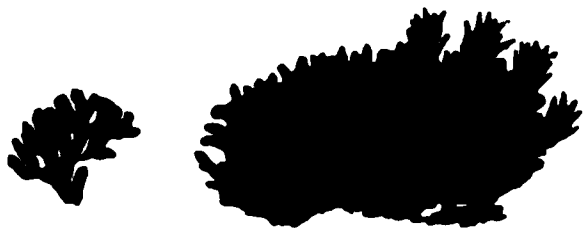
Sex. *Collema Schraderi*. Sm. Fl. Brit. t. 4, ined.

Loc. *Schraderi*. Berni. in Schröd. Journ. for 1799, fasc. 1, pp. 1, 2, p. 5.

Parochia Schraderi. Arch. Mith. 243.

OUR specimens marked 1 were gathered during a visit to Maudslayi's bath in June 1833, on a low stone wall next to a wood, but way between the two principal inns. No British botanist has observed the same, and they have remained undescribed hitherto, but we find them exactly accord with what Dr. Schrader has sent us under the above name. They compose true tufts, raised with moss, among the crumbling mortar and limestone, and grow erect, repeatedly branched, forked and level-topped. They are of a dull and darkish olive green, paler below: compressed and shrivelled when dry: gelatinous and somewhat fleshy when wet. Such is the indubitable *C. Schraderi*, on which no fructification has yet been found.—Fig. 2 represents a plant found by Mr. Turner on Caistor church, Norfolk, also on benches near Bury, and in Sussex, which has small reddish shields. He thought it a distinct species: but considering how much this gelatinous family often varies when it bears fruit, and still how little essential difference there is between the two specimens, we venture to publish them, at least for consideration, as the same.

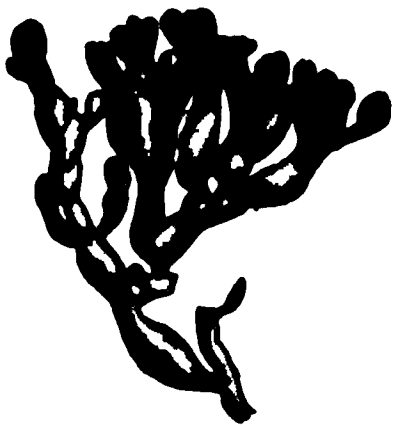
As to the genus now first introduced to our readers, we have hinted at it in p. 2264, and are persuaded that none of this natural order can be more natural or distinct.



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Manuscript published by J. A. Smith & Co.

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[1874]

LICHEN spongiosus.
Spongy Gelatinous Lichen.

CRYPTOGAMIA Algæ.

GEN. CHAR. Male, scattered warts.

Female, smooth shields or tubercles, in which the seeds are imbedded.

SPEC. CHAR. Gelatinous, dull green. Leaves clustered, much branched, granulated, cylindrical, obtuse. Sticks scattered, concave, brown; externally spongy and pale, with a thin upright margin.

WE are obliged to the Rev. Mr. Harriman for this Lichen also, sent from the country of Durham in 1802. That gentleman informs us he had long passed it over as a *Peziza*, a genus he did not particularly study; but at length he found the leafy crust so be so intimately united with the cups, as to put the matter out of all dispute. After much considera-

4374



W. 1874. Published by W. 1874. London

LICHEN subtilis.
Fine-spun Gelatinous Lichen.

CRYPTOGAMIA *Alga.*

GEN. CHAR. Male, scattered warts.

Female, smooth shields or tubercles, in which the seeds are imbedded.

SPEC. CHAR. Gelatinous, dull green, very minute. Leaves somewhat imbricated, much branched, linear, bluntish. Shields central, clustered, with a flat brownish disk, and narrow even border.

SYN. Lichen subtilis. *Schrad. Spicil.* 95. *Bernbardi* in *Schrad. Journ.* v. 1. 5. t. 2. f. 6. *Acbar. Prod.* 136. *Dicks. Crypt. fasc.* 4. 25.

MR. EDWARD FORSTER discovered this Lichen near Hale End, Walthamstow, in 1791. It has since been found in Scotland and Ireland by Mr. Brown.

This is one of the most minute plants hitherto detected, and, as its first describer the accurate Dr. Schrader observes, would scarcely be visible to the naked eye, did it not grow in patches, which are from half an inch to an inch and half



PLATE I. - Fossils from the Silurian of the Hudson River.

[2264]

LICHEN muscicola.

Gelatinous Moss Lichen.

CRYPTOGAMIA Alga.

GEN. CHAR. Male. scattered warts.

Female, smooth shields or tubercles, in which the seeds are imbedded.

SPEC. CHAR. Gelatinous, tufted, olive black. Segments cylindrical, branched, upright, level-topped, bluntish, wavy and uneven. Shields nearly terminal, horizontal, flattish, brown, with an entire border.

SIN. *Lichen muscicola*. Ach. Prod. 215. Act. Holm. for 1795 12. t. 1. f. 3. Swartz. Nov. Act. Ups. n. 4. 242. Dicks. Crypt. fasc. 2. 23. t. 6. f. 9. Bernhardt in Schrad. Journ. for 1799, 22. t. 2. f. 3. Wils. n. 4. 46. Hull. 305.

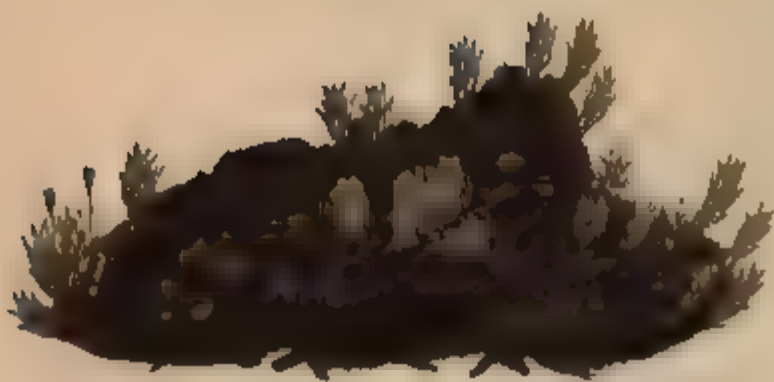
Parmelia muscicola. Ach. Meth. 244. Winck. v. 2. 59.

ALL our specimens of this curious Lichen have been communicated by the Rev. Mr. Harriman from the county of Durham, where it grows, running over mosses, on rocks and stones: as well as in Scotland and Wales.

Its habit is in appearance that of the tribe called *Cornicularia*, but it is now more justly reckoned by Acharius among the gelatinous Lichens, or *Collema*, which, though sunk in his



221.



U. 21. 100. 100. 100. 100. 100. 100. 100. 100. 100.

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3

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LICHEN nigrescens,
Blackish, or Bat's-wing Lichen,

CRYPTOGAMIA Algae.

GEN. CHAR. Male, scattered warts.

Female, smooth shields or tubercles, in which the seeds are imbedded.

SPEC. CHAR. Leafy, gelatinous, membranous, rugged and blistered, of a dark dull green, the lobes rounded. Shields clustered, reddish brown.

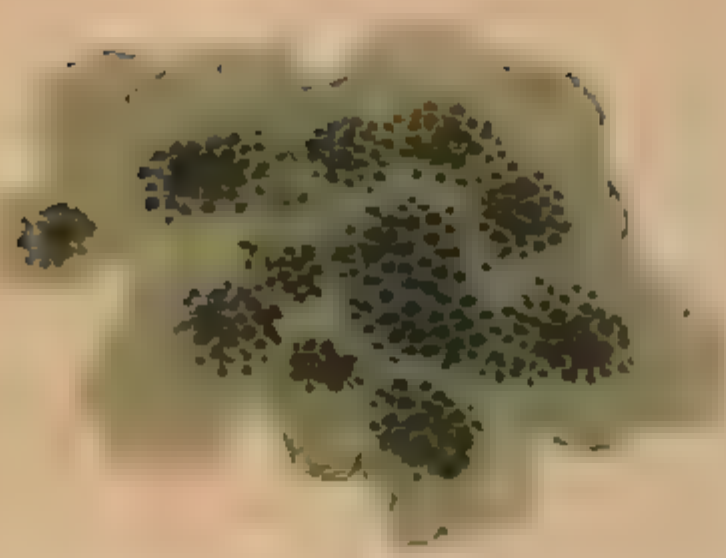
SYN. *Lichen nigrescens*, *Huds. Fl. An.* 537. *With. Bot. Arr.* v. 3. 198. *Relh. Cant.* 430. *Sibth. Ox.* 328. *Dicks. H. Sicc. fasc.* 11. 22.

L. vespertilio. *Lightf. Fl. Sc.* 840.

Lichenoides saxatile membranaceum gelatinosum tenue nigrescens. *Raii Syn.* 72.

L. gelatinosum membranaceum, tenue, nigricans. *Dill. Musc.* 138. *t.* 19. *f.* 20.

NOT unfrequent on the trunks of trees in damp woods, or on moist rocks, &c. It grows in patches lying close to the bark, especially the outermost lobes of the frond, which are rounded and entire, appearing very much wrinkled from numerous oblong parallel pustule-like elevations in the substance of



[153]

LICHEN fuscus.
Furca fuscus Lichen.

WESTMORELAND Sp.

GEN. CHAR. Nunc. *known work.*

Frutic. shrubby simple or suberect, in which the

Sp. CHAR. Lich. pubescent, membranous, granu-
lated, it is dark blackish green: its lobes ascending,
rounded, imbricate. Soredia scattered, reddish.

SYN. LICHEN fuscus. A. P. 131.

L. fuscus Lich. N. Mex. Mus. 57. Swartz. Act.
Ch. 7. & 243.

L. fuscus Lich. Fenn. 257.

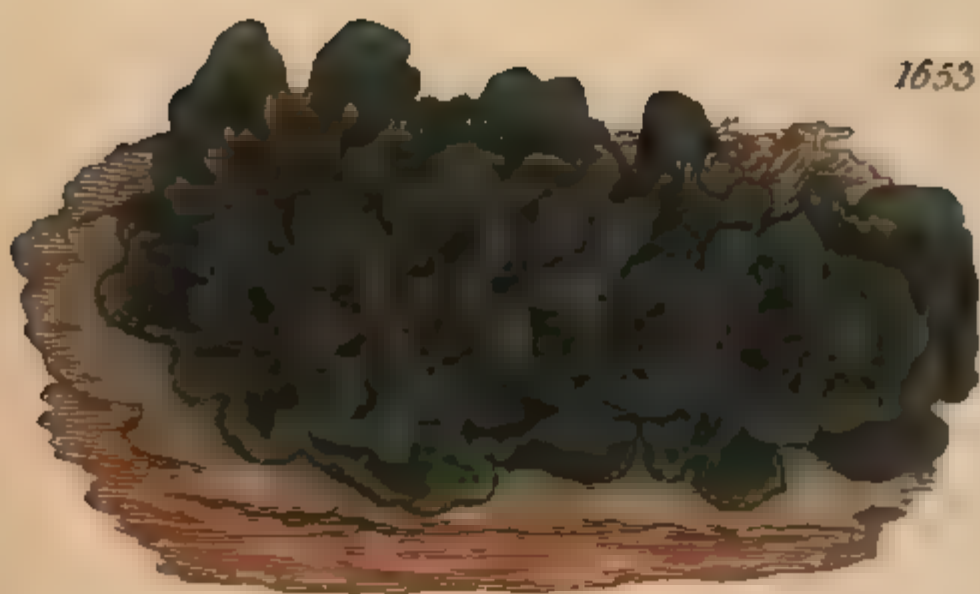
L. fuscus Gen. N. Mex. 1. 2. 131. Fl. Dan.
2. 472. 5. 2.

L. fuscus Dir. Ch. 98.

Parthenia fuscus A. P. Mex. 239.

GATHERED in moist dripping rocks in Westmoreland in 1733. Mr. Dickson about the same time received it from Devonshire and Sicily. To him I am obliged for observing that the younger Linnæus quotes for this species a wrong synonym of Dillenius, and yet has taken its description from the correct. The Dillenian plant may remain as *L. rupestris* of Withering, though not of Linnæus, while for the latter

1653



Printed and Published by J. B. Whittaker, London



[1890]

LICHEN saturninus.
Saturnine Gelatinous Lichen.

CRYPTOGAMIA *Agar.*

GEN. CHAR. Male, scattered warts.

Female: smooth shields or tubercles, in which the seeds are imbedded.

SPEC. CHAR. Lenny, gelatinous, membranous, dark greenish lead-coloured; glaucous and downy beneath; its lobes ascending, rounded, wavy. Shields scattered, reddish-brown, with a thin border.

SYS. *Lichen saturninus.* Sm. *Tr. of L. Soc.* v. 1. 84.
Dicks. Crypt. fasc. 2. 21. t. 6. f. 8. *Ach. Prod.*
 132. *Wilk.* v. 4. 60. *Hall.* 298.

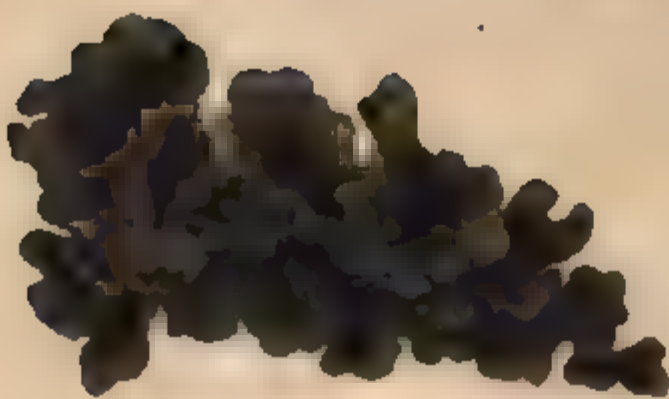
L. myochrous. *Eckh. Crypt.* 286.

Parmelia saturnina. *Ach. Meth.* 221. *Witch*
Guide v. 2. 53.

MR. DICKSON discovered this on trunks of trees in Scotland, about the same time that I gathered it in France and



1980



Printed and Published by J. A. G. Smith, London

[1981]

LICHEN tremelloides.

Nunc Gelatinous Lichen.

CRYPTOGAMIA Age.

Cust. Char. Main, scattered warts.

Female, smooth shields or tubercles, in which the seeds are imbedded.

Stem. Char. Lark gelatinous, membranous, thin, smooth at first, green; light lead-coloured when dry: lobes ascending, rounded, folded, somewhat wrinkled. Shields scattered, rather elevated, flat, whitish, with a smooth pale border.

Stem. Lichen tremelloides. Linn. Suppl. 450. Ach. Parm. 36.

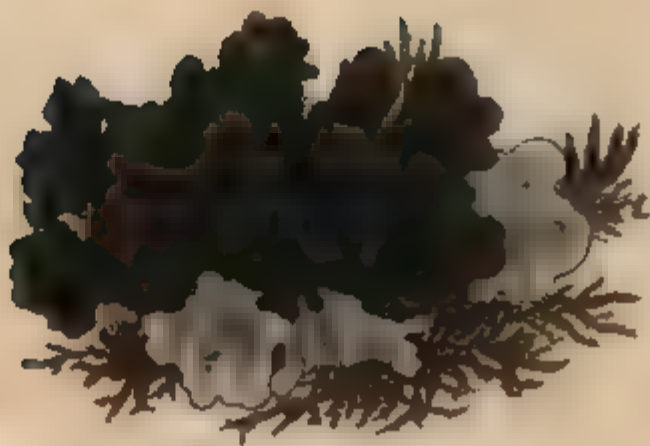
L. gelatinous. Bosc. Oyc. fasc. 1. 13. t. 2. f. 9.

Fitz. 1. 4. 74. Hal. 300.

Parmelia tremelloides. At. Meth. 224.

THIS Lichen I first gathered in 1793 on the east side of Dunsborough castle rock. It is most rare near the bottom, but without shields. In Dunsborough, whence Mr. Slater sent specimens to Mr. Dacot, it is more generally found in fructification. Its thallus grows in creeping patches, and are very

1981



Pl. 1. 189. Published by J. A. Smith & Co. London

[1982]

LICHEN lacer.

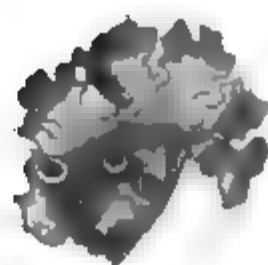
*Jagged Gelatinous Lichen.**CRYPTOGAMIA Alge.***GEN. CHAR.** Male, scattered warts.

Female, smooth shields or tubercles, in which the seeds are imbedded.

SPEC. CHAR. Leafy, gelatinous, membranous, extremely thin, nearly upright, blueish brown; lobes divided, finely jagged and fringed. Shields scattered, minute, concave, red, with a thick brown border.**SYN.** *Lichen lacerus*. Ach. Prod. 193.*L. tremuloides*. Hud. 537, Lightf. 342. Hull. 300.
Raii 464. *Silbk* 328.*L. Tremula*. With. 72.*Lichenoides pellucidum*, *codicis foliis tenuibus crispis*.*Dill. Musc.* 143. t. 19. f. 51.*L. serrule tenne rufescens*. Dill. in *Raii Syn.* 77.*Parmelia lacera*. Ach. Meth. 225. *Winch Guide*
v. 2. 55.*Tremella lichenoides*. *Lin. Sp. PL* 1625.

WE resign with regret Hudson's name for this pretty Lichen, out of deference to Linnaeus and Acharius, see last page; but we cannot but regret the want of a more classical

1952



Pub. & 1899 Published by J. & A. Smith, London

LICHEN Burgessii.
Crowned Lichen.

CRYPTOGAMIA Alga.

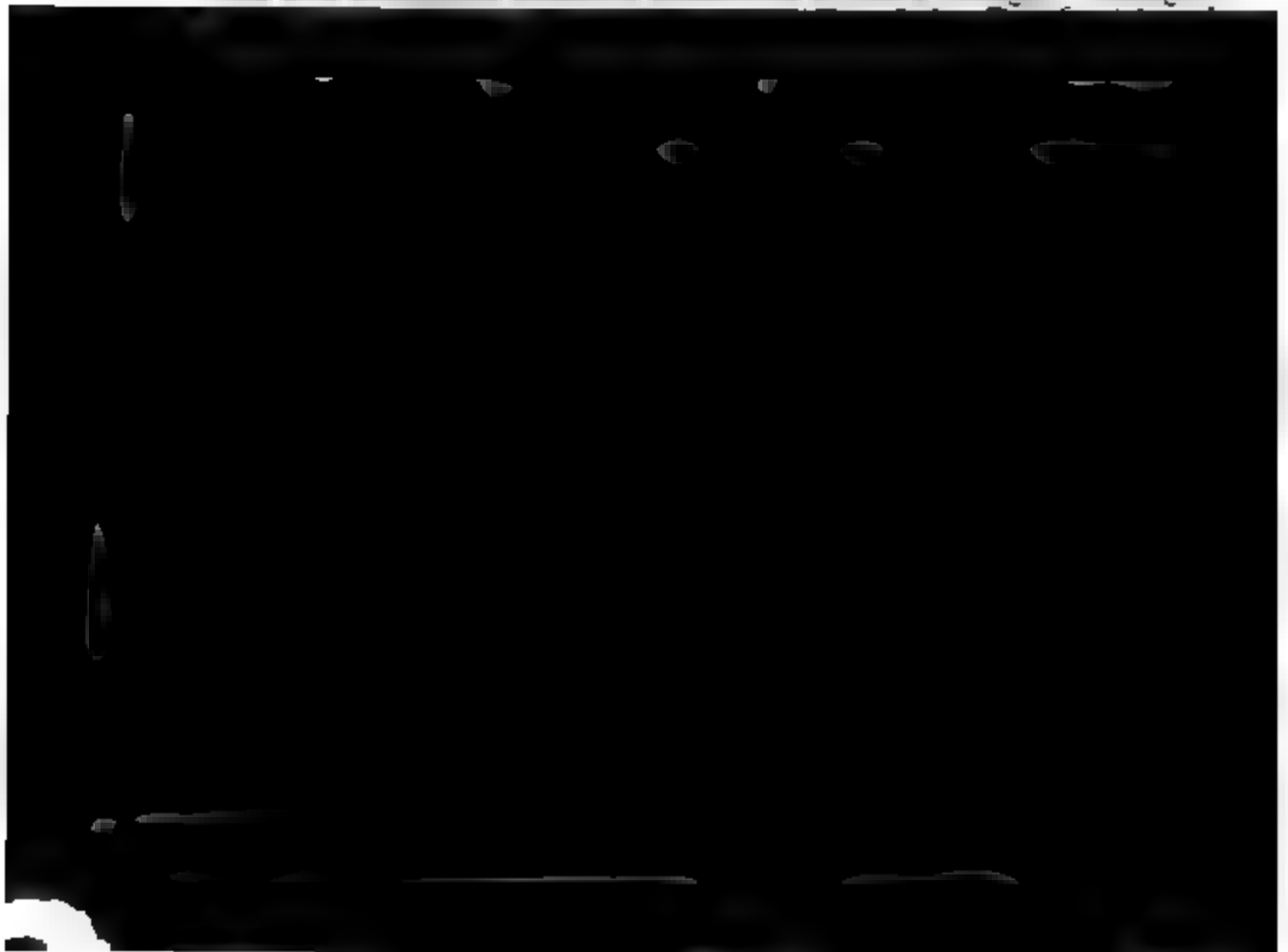
GEN. CHAR. Male, scabred warts.

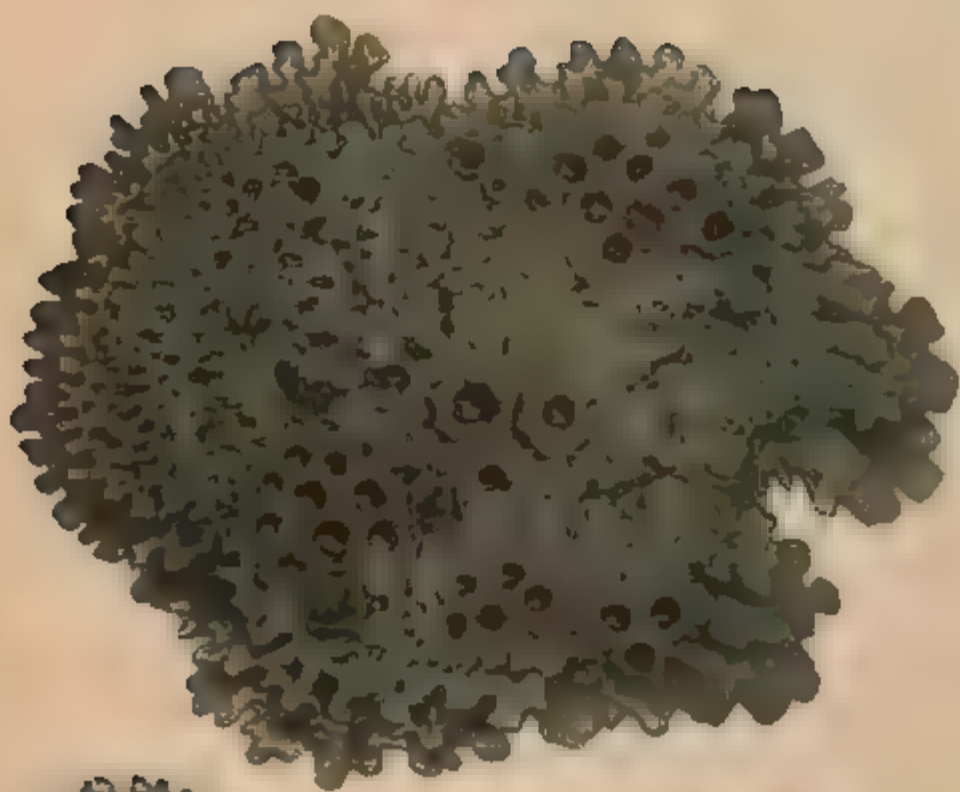
Female, smooth shields or tubercles, in which the seeds are imbedded.

SPEC. CHAR. Leafy, somewhat imbricated, curled. Shields elevated, brown, slightly concave, with a green, leafy, curled and sinuated border.

SYN. Lichen Burgessii. *Linn. Syst. Veg. ed. 13. 807.*
Licht. Scot. 827. t. 26. Huds. Fl. An. 538.
With. Bot. Arr. v. 3. 139.

HITHERTO this curious Lichen has been found only in Dumfriesshire, Scotland, by the Rev. Dr. Burgess; but our specimens were gathered last summer on trunks of trees in the wild and forested country about the Devil's bridge, Cardigan-





LICHEN globiferus.

*Globe Lichen.*CRYPTOGAMIA *Lyc.*

GEN. CHAR. Male. scattered warts.

Female, smooth shields or tubercles in which the seeds are imbedded.

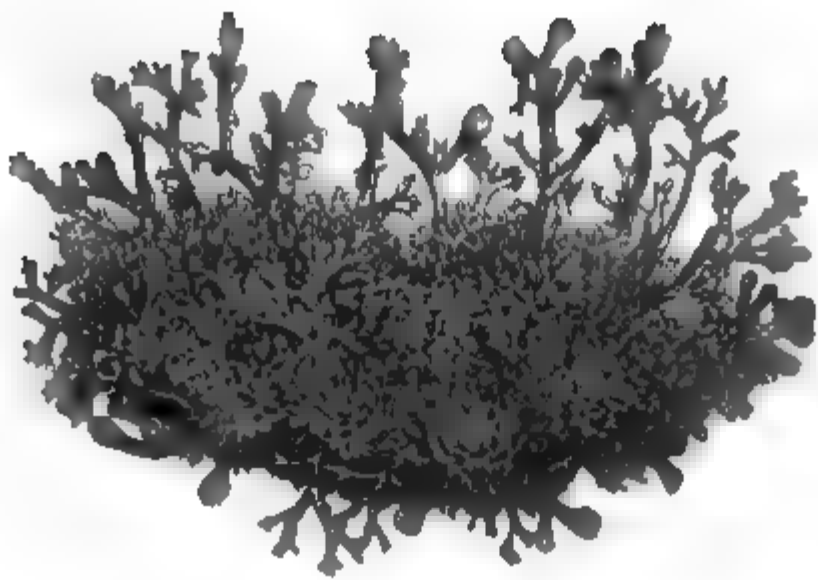
SPEC. CHAR. Sterility. Stems much branched, cylindrical, brownish and polished. Shields terminal, globular, producing a ball of black coagulated powder.

SYN. Lichen globiferus. *Lec. Mus.* 133.*L. glacialis* *Fenzl. Fl. Ar.* ed. 1. 460.*L. fragilis* *F.* *Hed. Fl. Ar.* ed. 2. 558. *Walt. Bot. Ar.* 215.*Lichenoides* non tubuliform, ramulis scutellis nigris terminatis. *Fenzl. Syn.* 66: See *L. fragilis* (114).*Coralloides* cupressiforme, capitulis globosis. *Dill. Mus.* 117. t. 17. f. 35.

A NATIVE of mountainous rocky heaths, very abundant in Scotland, Wales, and on Cromford moor near Matlock.

The seeds form a ball of black coagulated powder.





SPHÆROPHORON fragile.

Brittle Globe Lichen.

CRYPTOGAMIA *Age.*

GEN. CHAR. *Receptacles* nearly globose, terminal, of the substance of the frond. *Seeds* in a dense, black, powdery ball.

SPEC. CHAR. Frond densely tufted, brownish, brittle, cylindrical, repeatedly forked, without lateral branches.

SYM. *Sphærophoron fragile.* *Ach. Meth.* 135.

S. coralloides β. *Turn. & Borr. Lich. Brit.* v. 1. 111.

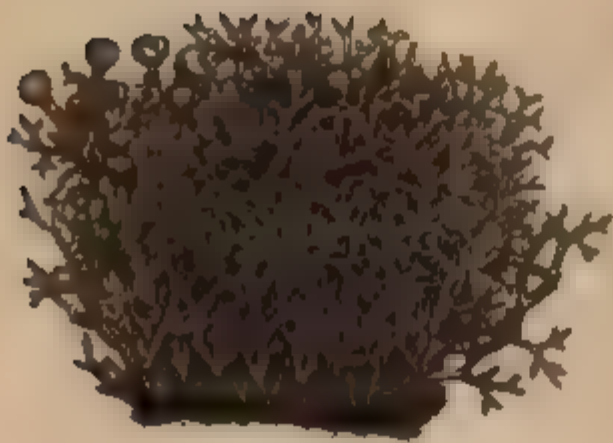
Lichen fragilis. *Linna. Sp. Pl.* 1621. *Pl. Suec.* ed. 2. 425. *Ehrh. Crypt.* 128.

L. sterilis. *Ach. Prod.* 211. -

Coralloides fragile. *Hoffm. Pl. Lich.* v. 2. 34. t. 33. f. 3.

COMMUNICATED by Mr. Turner from rocks in Scotland. Being now satisfied of the necessity of separating this genus from *Lichen*, we take this opportunity of giving its characters. Three species only have been found in any part of the world. The habit of them all is no less peculiar than their fructification; shrubby, tufted, polished, more like a coral than a plant, the upper branches elongated, and tipped with large, solitary, nearly

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As. repens L. by J. H. S. G. H. S.

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L I C H E N fragilis.

*Brittle Lichen.**CRYPTOGAMIA Alga.***GEN. CHAR.** Male, scattered warts.Female, smooth shields or tubercles, in which the seeds are imbedded. *Hedwig in Wiltb. Vol. 3. p. 29, &c.***SPEC. CHAR.** Shrubby, solid, branched, compressed, whitish. Shields terminal, depressed, producing black powder intermixed with fibres.**SYN.** Lichen fragilis. *Lin. Sp. Pl. 1621. Hudf. Fl. An. 558. Wiltb. Bot. Arr. V. 3. 215. Jacq. Misc. V. 2. 92. t. 9. f. 6. c. bad.***L. melanocarpus.** *Swartz. Prod. 147.**Lichenoides non tubulosum ramosissimum, fruticuli specie, cinereo-fuscum. Raii Syn. 65?**Coralloides alpinum, Corallinae minoris facie. Dill. Musc. 116. t. 17. f. 34.*

FOUND on rocks and heaths in mountainous places, scarcely ever producing its shields except in moist shady situations. It was found in that state at Tunbridge by Mr. T. F. Forster, junr. in 1791, and by Dr. Smith, the following year, on the north side of the high rocks on Cromford moor near Matlock. We believe few persons since Dillenius have seen these shields.

The most common appearance of the plant is a thick tuft of short, erect, bluntish branches (fig. 1.) spreading on the rocks like a crustaceous Lichen. The flowering stems are widely dis-



